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Government Programs and Poverty

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*This Chapter was written by Quentin Wodon
with the valuable input of Gladys Lopez-Acevedo.*

I. Introduction and Overview: Ten Strategic Questions

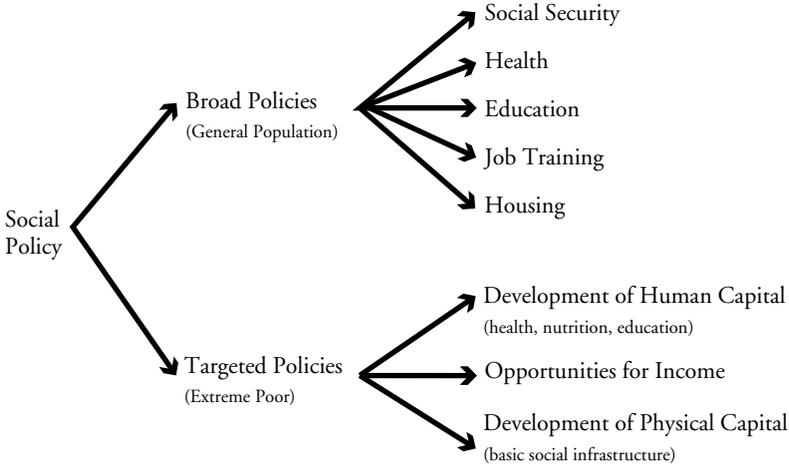
The strategy of the Zedillo Administration for the reduction of poverty relied on both broad-based social expenditures and targeted poverty programs (Figures 1 and 2). Broad-based social expenditures are devoted to the areas of social security and health-care, education, job training, and housing. Targeted poverty programs focus on investing in the human capital of the poor, promoting income and employment opportunities for the poor, and improving the physical infrastructure of poor areas. Public funding for targeted programs has increased much faster over the last dozen years than the programmable budget (Figure 3). Within targeted spending (MXP\$53 billion in 2000), half of the funds are devoted to human capital, a third to physical infrastructure, and the rest to income opportunities (Figure 4). This Chapter is based on the poverty assessment for Mexico completed by the World Bank.¹ It evaluates the impact of government programs and policies on poverty. After summarizing the key findings through 10 strategic questions, the Chapter reviews broad-based social expenditure and government programs targeted to the poor.

II. Key Findings

1. Do The Poor Benefit From Broad-Based Expenditures In Health, Education, Training, And Housing? The poor do benefit from these broad-based public expen-

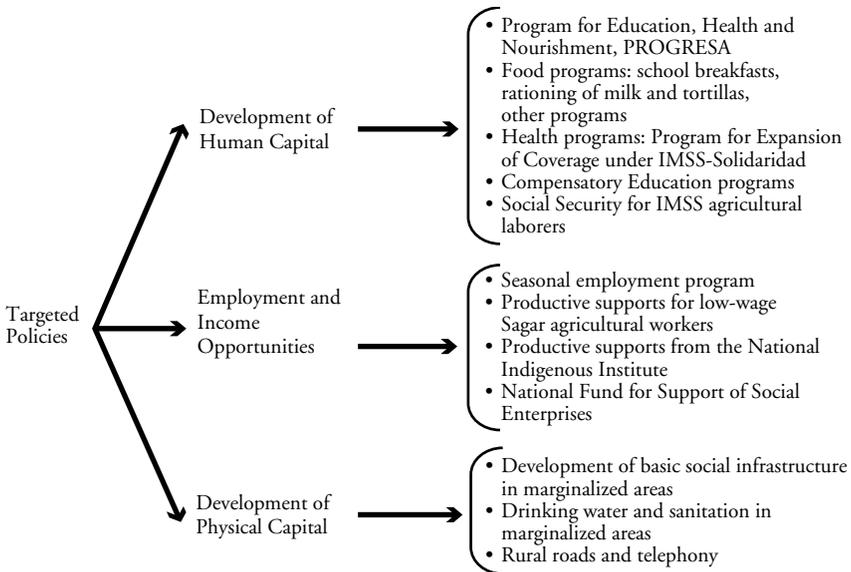
1. Especially the Executive Summary and Chapters 2 to 5 in "Government Programs and Poverty in Mexico," Report No. 19214-ME, World Bank, Washington, D.C., 1999, 2 volumes. The report contains a detailed bibliography which is not reproduced here.

Figure 1. Broad-based and Targeted Policies



Source: Budget of the government of Mexico (federal level).

Figure 2. Targeted Policies by Group



Source: Budget of the government of Mexico (federal level).

Figure 3. Resources Channeled by Poverty Alleviation Programs
(millions of pesos of 2000)

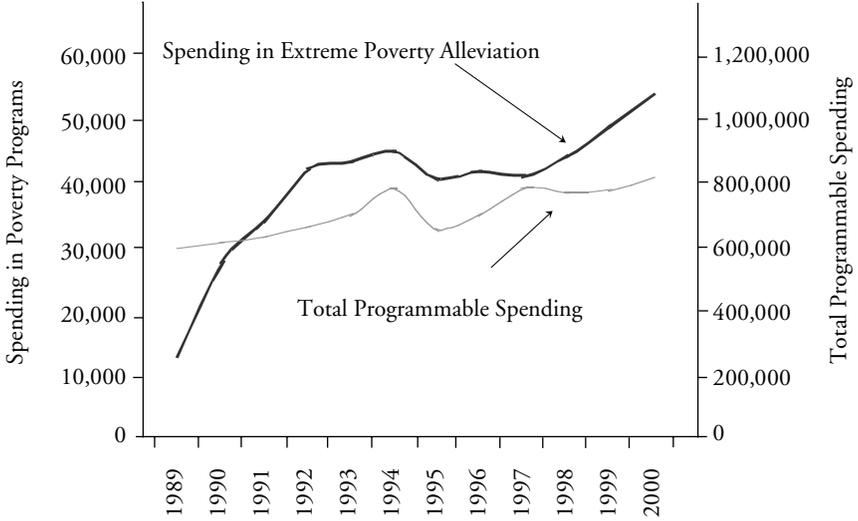
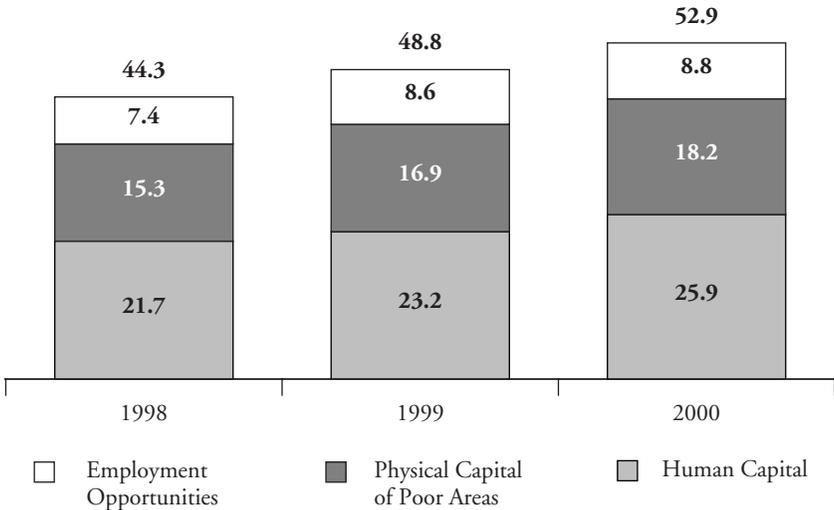


Figure 4. Government Spending for Poverty Alleviation
(2000 pesos in billions)



Source: Government of Mexico (1999).

ditures, but not enough. Incidence analysis demonstrates a highly unequal distribution of upper secondary and university education. Beyond formal basic education, the access of the poor to training remains limited. Those working in the informal sector (almost half the population) lack health insurance, and until recently 10 million people did not have access to healthcare. In low-income housing, there is evidence of leakage to the nonpoor of programs in principle devoted to low-wage workers. The increase in social spending observed in the last 10 years will be good news for the poor only to the extent that they are better able to benefit from these expenditures.

2. Are There Other Broad-Based Expenditures Where Adjustments Would Help to Serve the Poor? While the government considers broad-based expenditures in health, education, training, and housing to be part of its strategy for the alleviation of poverty, it does not include in this strategy a number of other large programs which have, or could have, an impact on poverty. PROCEDE may be beneficial for the communities adopting it. This is also the case of the agriculture programs PROCAMPO and Alianza para el Campo. This Chapter indicates that PROCAMPO may have a larger impact on poverty than Alianza para el Campo, but additional work is needed to evaluate Alianza para el Cambio's subprograms using better data. PROCAMPO payments would have an even greater impact if payments were progressive, so that those having less land would receive more support per hectare. The point is that a comprehensive strategy for the alleviation of poverty cannot rest solely on a small number of targeted programs. It is important to make sure that, wherever feasible, the design of these programs are adapted so that their impact on the poor is magnified, even though the programs are not specifically targeted to the poor. (Of course, in helping the poor to benefit from the programs, it must be ensured that no conflicts arise with the objectives of the programs.)

3. Is PROGRESA Functioning Well? PROGRESA provides integrated support at the household level for education, health, and nutrition. An in-depth evaluation of the program has been implemented by PROGRESA staff together with the International Food Policy Research Institute, IFPRI. Overall the program is well thought out and innovative. Yet, in a number of areas, it may be worthwhile to think of potential adjustments in the program. PROGRESA's targeting system may not have always been successful in identifying the needy. Its use of cash grants is appropriate, but the level of the grants may be high. PROGRESA is succeeding in raising the demand for schooling and healthcare, but this generates tensions on the supply side (steps have been taken to improve the coordination with supply-side initiatives). PROGRESA is apparently empowering women in rural areas, but more time is needed to judge its impact. Community participation, including in the selection of program beneficiaries, could be promoted more vigorously. Rather than considering the program's current mix as ideal, PROGRESA staff may want to test how similar or better results could be achieved at lower costs. Finally, in operational terms, progress can be made to increase the efficiency of the program, for example through

better supervision, the integration of the various data bases created by the program, the potential use of the banking system for the payment of the stipends, etc.

4. Was It Right to Reorganize Food Subsidies? While the now-defunct generalized subsidy on tortilla did reduce inequality, especially in urban areas, and while it did reduce inequality more than subsidies on utilities such as water and electricity, it created distortions. It was also costly, it did not help the poor in the long term, and it was biased toward urban areas. The decision to phase out this subsidy was appropriate. Should means-tested food subsidies be cut as well? This is a more difficult question because the LICONSA (subsidized milk) and TORTIBONO (means-tested tortilla subsidy) programs have larger impacts on poverty and inequality than generalized subsidies. Still, despite their potential impact on nutrition, it remains true that subsidies may not yield long-term benefits for the poor comparable to the benefits provided by PROGRESA (or DIF's school breakfasts), which apparently helps in keeping children in school. More generally, given the wide array of food and cash programs in Mexico, it would be important in further work to provide cost-benefit analyses of the performance of the various programs, which would go beyond the impact evaluations provided in this Chapter. For this, the results of survey-based impact evaluations should be combined with detailed administrative records on costs and outreach.

5. Do Compensatory Education Programs Increase the Quality of Basic Education for the Poor? While PROGRESA and DIF's school breakfasts increase the demand for schooling, compensatory education programs aim at improving the quality and the supply of schooling. PARE was until recently one of the main programs providing resources for schools and training for teachers. While PARE's overall impact on test scores in sixth grade was found to be positive, the program did not improve the test scores of the poorest indigenous children. Within nonindigenous rural schools, the impact was also found to be positive, but lower for the poorest of the poor. In urban areas, the impact was negative. Some of these results have to be considered with caution due to the limits of the data available for evaluating PARE. Still, while supply-side interventions can have substantial effects on the learning achievement of children in poor areas, greater attention needs to be paid to the poorest and the indigenous so that they too may benefit.

6. Is the Temporary Employment Program (PET) Cost-Effective in Transferring Income to the Poor? PET provides off-season temporary employment in marginalized rural areas. Because the wage is below the minimum wage, the program is self-targeted. Household data indicate that program participants do need PET more than nonparticipants because they do not have access to occupations providing work all year long. Within participating communities, PET participants were also found to be poorer than nonparticipants. Yet there are indications that PET may not reach the smallest and most isolated rural communities. Rough appraisal methods indicate

that the cost of generating 1 peso of additional income for the poor through PET is about 3.5 pesos (this does not take into account the benefits from PET's infrastructure works). Overall, PET is a necessary program that helps the rural poor, but its design could be improved by learning from other experiences. In Argentina, for example, *Trabajar's* recent reform increased community participation and funding. Local community groups present projects for selection by *Trabajar* staff. After checking for technical feasibility, the projects are selected on a points basis, with more points awarded to projects that are located in poorer areas and that yield larger public benefits, benefit from well-regarded sponsoring groups, and reduce labor costs below the minimum wage.

7. Do Small Rural Communities Have Access to Social Infrastructure? If Not, What Can Be Done? This Chapter shows that access to governmental services (such as telesecondary) and programs (such as DIF's school breakfast) improve the human capital of the poor by increasing the probability that children remain in school. Unfortunately, households living in poor rural areas still lack access to basic social infrastructure. Many communities with less than 20 households do not have electricity, health, and education services. The smaller the community, the smaller the likelihood of benefiting from government programs as well. This does not imply that government services and programs should be implemented everywhere. Due to the high cost of reaching small rural communities, hard choices must be made as to which communities to serve with which services and programs. A detailed cost-benefit analysis of the tradeoffs should be conducted, taking into account the impact of government interventions on mobility and migration. Work should also be done on the impact of migration on poverty.

8. What Can Be Done to Ensure That the Decentralization Process Is *Pro-poor*? Funds for new social infrastructure (FAIS) are now distributed according to a need based formula. This has helped the poorest states increase their share of transfers. The FAIS allocation formula could be improved in theory, but this would probably not make a large difference because the various indicators on which the formula is based are highly correlated. More problematic are the allocations for basic education (FAEB) and health (FASSA), both of which account for three fourths of *Ramo 33's* budget. These allocations are not based on need, but on past expenditures and existing costs. Hence states that are already well endowed continue to receive more funds. Without putting in jeopardy the maintenance and operation of existing infrastructure, alternative ways to disburse these funds should be examined. At another level, Mexico's decentralization took place so rapidly that local governments have not had time to fully adapt, and number of management and administrative issues remain outstanding. The provision of training to local governments should alleviate these concerns. Finally, international experience suggests that there may be a risk with devolution, in that local levels of government may reduce social spending in order to compete for (or simply please) wealthier residents. Federal and civil society

controls may be needed to prevent this and to protect the poor, but these controls should not prevent innovation at the local level.

9. Has the Government Improved the Design of Its Strategy for the Alleviation of Poverty? The government has made some progress in the design of its strategy for the alleviation of poverty, which was very much needed after the 1995 crisis. As explained earlier, the decision to cut generalized food subsidies was correct. Although reforms could be undertaken for improving each of the government's programs, and although more work could be conducted to optimize the relative weights of the programs in the budget, the three-pronged strategy of the government (investments in human capital, providing income and employment opportunities, and investments in poor areas) is fundamentally sound. Moreover, a culture of evaluation of the programs is progressively being developed, as exemplified by the large-scale evaluation of PROGRESA undertaken by IFPRI, to be completed in 2000. Another example of the culture of evaluation taking shape is the publication of the rules of operation of 135 programs in the *Diario Oficial de la Federación*. Further gains could be achieved by evaluating programs in a consistent cost-benefit framework, and by streamlining programs that do not have a clear comparative advantage.

10. What Is Still Missing from the Government's Strategy for the Alleviation of Poverty? Two things: First, there may not yet be a clear blueprint for urban areas similar to the one being implemented in rural areas. Following the phasing out of generalized food subsidies and the implementation of PROGRESA, rural areas are now benefiting from 75 percent of all expenditures targeted to the extreme poor. Given the comparative levels of extreme poverty in urban and rural areas as measured in the surveys, the pro-rural bias of targeted programs for poverty is sound. Still, in urban areas, even though the government is implementing new programs, more is needed to have a clear vision of what has to be done for the extreme poor. Second, at the national level, despite substantial progress in defining a strategy for poverty reduction, there may not yet be a clear understanding of how broad-based and targeted interventions may build on each other so that the whole is greater than the sum of the parts.

The objective of the Bank Report on which this Chapter is based was limited to providing elements for an evaluation of selected programs used by the government for poverty reduction. Further work will be needed to ensure that all these programs feed into a coherent strategy. The following areas for further work have been identified as potential inputs for an overall poverty reduction strategy: (a) geographic dispersion in rural areas, basic infrastructure, and the impact of migration on poverty; (b) evaluation of microcredit programs in rural areas; (c) more detailed evaluation of the PET program; (d) more detailed evaluation of PROBECAT to improve the training component; and (e) poverty in urban areas, including the reform of social security.

III. Broad-Based Public Expenditures and Poverty

Within broad-based public expenditures, social and agricultural expenditures are among the most important for the poor. Expenditures for education, health, social security, job training, and housing are part of the government's strategy for the reduction of poverty. In 2000 social expenditures² will account for 9.6 percent of GDP and 61 percent of its programmable expenditures, compared to 6 percent and 36 percent, respectively, in 1990. As a result, over the last sexenio (between 1994 and 2000), despite a fall in real terms of programmable spending of 5.3 percent, social spending per capita increased by 12.8 percent. About US\$500 is now spent in social expenditures per capita. This is almost a third of the resources needed for a family of four to avoid being in extreme poverty. Apart from social expenditures, spending by other Ministries also matter for the poor. The programs of SAGAR are especially important given the high incidence of poverty in rural areas. This section analyzes whether broad-based social expenditures benefit the poor, and evaluates the impact on poverty of broad-based agricultural expenditures.

Access of the Poor to Broad-Based Social Public Expenditures Remains Limited

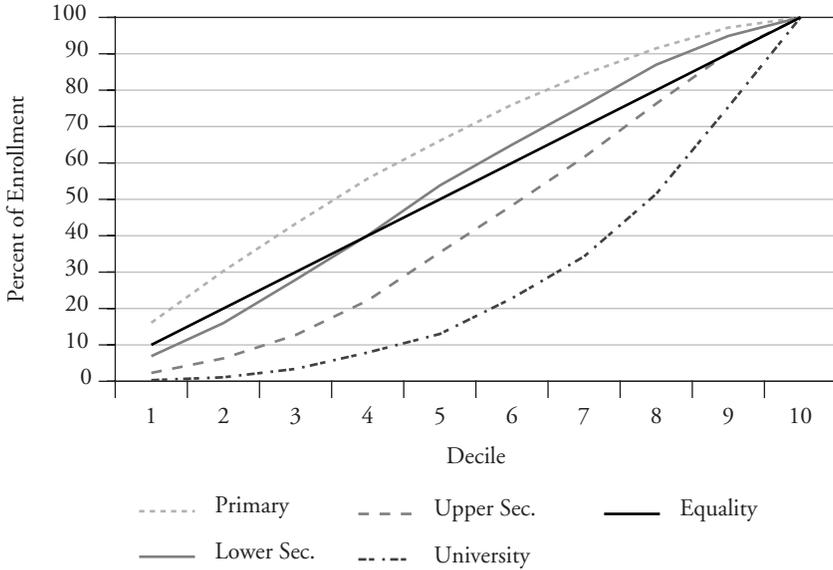
Education

In addition to improving access to upper secondary and higher levels of education, improving basic education is a priority for the poor. As indicated in Figure 5 (next page), which provides concentration curves for public school enrollment in 1996, the access of the poor to upper secondary and university education remains limited, compared to primary and lower secondary schooling (both of which are mandatory, the latter since 1983). For the poor, apart from access to higher levels of education, improving the quality of primary education and access to lower secondary education, which together form the basic education track, are priorities. Interventions on both the demand and supply side will be needed for this (see Section IV of this Chapter, Investments in the Human Capital of the Poor). Some resources allocated to universities could benefit the poor more if they were reallocated to improving the quality of basic education (and also encouraging access in marginalized rural areas.)

Early Child Development (ECD) programs targeted to the poor tend to be effective in helping poor children succeed later in school. There is an international body of evidence suggesting that ECD programs (preschool combined with nutrition support) can be effective in avoiding malnutrition and in helping children learn. As noted in the Education Chapter, Mexico's Initial Education Program (PRODEI),

2. Education, health, and social security represent almost 90 percent of total social expenditures. Education and healthcare (together with social security) each represent more than 40 percent of total social expenditures. Spending on labor, rural and urban development, and food and social assistance make up the rest.

Figure 5. Concentration Curves for Enrollment by Education Level, 1996, Public Schools



Source: World Bank Staff estimates.

with a per capita cost of about MXP50 per year, is a home-based program delivered by community educators who train parents to stimulate their children. The parents' education is developed through periodic group meetings supplemented by home visits. The program promotes the physical, emotional, intellectual, and social development of infants and toddlers, and improves the school-readiness skills of children. There is empirical evidence that the program is effective in increasing returns on primary education. The program also creates job opportunities for young graduates (of primary education) in poor areas. The program also increases women's self-esteem, and provides opportunities for parents to socialize, thereby fostering community development. PRODEL's coverage should be extended.

Mexico has increased enrollment and reduced dropout and repetition rates in primary schools. The government provides primary education to 14.5 million children, 95 percent of whom are enrolled in mainstream general primary education. The official age of entry into primary school is 6, and this level of schooling should be completed within 6 years. Due to latecomers and repetition, however, the target population goes from ages 6 to 14. The percentage of all children aged 6 to 14 enrolled in primary school increased between the 1990 Census and the 1995 *Conteo*. The increase in primary school enrollment has been especially strong for the indigenous population (an additional 170,000 students, or 30 percent) and for 6

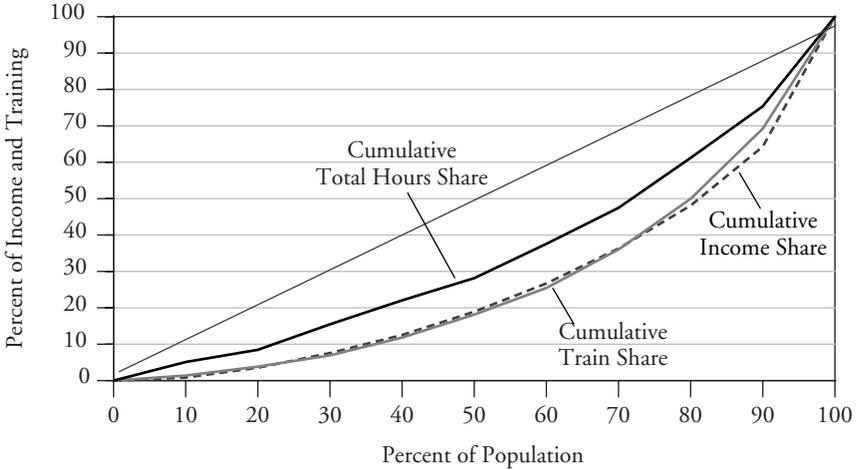
year-olds, which suggests a better ability to attract children early on. However, the fact that enrollment rates are higher for 7 to 11 year-olds indicates persistent problems related to latecomers and repetition rates. The number of schools and teachers has increased faster than the number of students. While this is good for quality improvements, it also induces higher costs. Mexico has also made progress in terminal efficiency (ratio of the number of children completing sixth grade to new enrollments in first grade 6 years earlier), with an 11-percentage-point gain in 5 years. The increase in terminal efficiency is due to improvements in both dropout and repetition rates, which decreased for all grades. On average, dropouts decreased from 4.6 percent to 3.0 percent from 1991–92 to 1995–96, whereas repetition rates were reduced from 9.8 percent to 7.8 percent. Overall, the number of children completing primary school each year has increased by more than 200,000. Still, while completion rates for primary education have reached 85 percent or more overall, they are much lower for the poorest deciles of the population.

While progress has also been achieved in secondary schools, access is far from universal. The lower secondary cycle lasts three years and is intended for age group 12 to 16. Today, 4.3 million students participate. Progress in the 1990s is demonstrated by the following indicators: (a) enrollment has risen by 14.8 percent, translating into an additional 600,000 students; (b) as for primary schools, the number of schools and to a lesser extent the number of teachers has increased faster than the number of students (plus 26.9 percent for schools and 17.5 percent for teachers); and (c) although still low, the enrollment rate in the age group 13 to 15 has gained 7 percentage points, reaching 75.4 percent in the 1996–97 school year. On the other hand, terminal efficiency rates have not improved beyond 75 percent and the average dropout rate was 8.9 percent in 1997–98, which is much higher than the dropout rate for primary education (2.9 percent), and only half a point lower than the 9.5 percent dropout rate for secondary school in 1990–91.

Similarly, the repetition rate for lower secondary education has remained stable, compared to a decrease for primary school. Factors both internal and external to the school system are affecting the performance of lower secondary schools. Internally, there may be a shortage of well-trained teachers, with a higher percentage of teachers lacking appropriate training at the lower secondary than at the primary level. Externally, the need for children to work, especially among the poorest families, may contribute to generating high student absenteeism and poor test scores, which leads to increased repetition.

Beyond formal basic education, the access of the poor to job training remains limited. According to information from the ENE–ENECE 1997, the poor lack access to training programs. As indicated in Figure 6, the distribution of training courses is as unequal as that of income. While the distribution of training hours is less unequal, it is still biased toward the better off. Among the poorest 10 percent of the population, only 1.45 percent have participated in a training course in the last three years. Among the richest 10 percent, the participation rate is 32 percent. Public training is distributed more equally than private training, but it still favors the

Figure 6. Distribution of Income, Training Courses, and Hours of Training



Source: World Bank Staff estimates.

upper deciles. Moreover, while 49 percent of those in the poorest decile who get training pay some or all of the cost of their training, only 25 percent of the rich pay for their training. This is due to the fact that many of the poorest are unemployed and cannot benefit from employer training. In the poorest decile, of all those who get training, only one in six gets training on the employer’s premises, compared to more than half in outside institutions. Among the wealthiest decile, 60 percent of those getting training receive it at their firm, and only one third take training at another institution.

Health

Despite progress in health, half the population remains uninsured and one tenth is without access to healthcare. Infant mortality decreased in the 1990s, immunization among children has become nearly universal, and some gains have been achieved in maternal mortality. Life expectancy has increased from 66.8 years in 1980 to 71.7 years in 1996. However, despite such progress, and while the population engaged in the formal labor market benefits from health insurance through IMSS and ISSSTE, the informal sector (43 million adults and children) remains largely uninsured. Until recently, within the informal sector, 60 percent of the population relied on services provided by the SSA, 16 percent relied on IMSS-Solidaridad, and 24 percent had almost no access to healthcare and needs to be covered.

- *IMSS-Solidaridad.* Begun in 1973, IMSS-Solidaridad extends Social Security health coverage to segments of the population that are unable to pay into the social security system. The goals are to improve the access to, and quality of,

medical attention for the poor. The program emphasizes reproductive health, nutrition, and sanitation. The mobilization of local communities is an integral part of the program. A general assembly, a health committee, and groups of volunteers are convened locally to help implement the program. As of 1996, the program served about 10 million people in 1,225 municipalities, and it had built 3,540 clinics and 67 hospitals in marginalized areas.

- *PAC*. *PAC (Programa de Ampliación de Cobertura)* provides basic healthcare to those living in marginalized and remote rural areas in coordination with PROGRESA (which is discussed in Section IV of this Chapter). PAC is expected to provide health services to 8 million people by 2000.

Social security reform was enacted in 1997 to ensure the continued financial and institutional viability of IMSS in the face of the challenges posed by a growing and aging population. While the expansion of the economy and the reform of social security should help provide insurance to a larger share of the population, reaching in a cost-effective manner those who fall outside of the system, particularly those living in remote areas, will be a challenge, given the overall increase in the cost of healthcare.

For the rural poor, the priority is access to a basic package of preventive and curative healthcare. Extreme poverty brings with it a high level of mortality and morbidity. In rural areas, the infant mortality rate among the poor is more than twice that among the nonpoor. The participation rates among the poor in family planning and prenatal care are low. While 72 percent of poor rural women say they do not want another pregnancy, less than 56 percent use any sort of birth control. Once pregnant, 1 in 6 poor women in rural areas do not receive any prenatal care. Many factors account for these problems, including lack of access to quality care, unhealthy living conditions, malnutrition, lack of a culture of preventive health, absence of social security benefits, and geographic dispersion. To help the poor, programs such as PAC put the priority on providing a package of basic care. For PAC, this includes the following elements: accident prevention and emergency care; basic sanitation; diarrhea control; family planning; treatment of parasitic diseases; health information, communication, and education; immunization; prenatal and delivery care; prevention and control of hypertension and diabetes mellitus; prevention and control of tuberculosis, nutrition surveillance; treatment of upper respiratory tract infections; and prevention and control of cervical cancer. This type of basic care package emphasizes prevention, but curative services are also being tested and developed, including mobile surgery units.

Housing

Social interest housing programs are not efficient, and they are not accessible to the very poor. Apart from new and small pilot programs, the contribution of the government to the social interest housing sector consists of two agencies facilitating ownership: FOVISSSTE for public sector workers, and INFONAVIT for private

sector workers (FOVI is also active in the sector). The management difficulties encountered by these agencies have been documented (also see the Chapter on Housing). In addition, the problem for the very poor is that they are not eligible for mortgages, and therefore cannot benefit from the programs. Moreover, while these housing programs are in principle targeted to low-wage workers, leakage is high. For example, according to 1996 INGEI data, information is available on beneficiaries from INFONAVIT in the six-month period preceding the survey. The mean quarterly household income of beneficiary households was MXP\$16,200, versus MXP\$10,500 nationally. While the sample size for beneficiaries on which this comparison is made is very small, this confirms that housing programs are not well targeted to low-wage workers.

Social Security

In urban areas, social security reform helped reduce the amount of taxes paid by the poorer segment of the formal sector. While the government has implemented a number of new programs to help the rural poor (these are discussed below and in subsequent sections), there is a feeling that less is done for the urban poor than for the rural poor—at least, there is a perception that the strategy for poverty reduction is less advanced in urban compared to rural areas. Still, one of the positive consequences of social security reform, and more specifically of the *Seguro de Enfermedad y Maternidad*, has been the reduction in the contributions paid by low-income workers. For workers earning up to three minimum wages, the reduction in contributions represents an increase in net earnings of 2.6 percent. A question that remains is how to make such benefits available to informal workers.

Not All Agricultural Programs Benefit the Rural Poor in the Same Way

The government of Mexico has been liberalizing the rural economy. Until the late 1980s, the government played a dominant role in production and marketing decisions in agriculture, especially in the *ejido* sector. The government granted land and water resources to *ejidos*. The community's members, or *ejidatarios*, had usufruct rights over the land they cultivated, but were not allowed to enter sale, rental, or sharecropping contracts. They were prohibited from hiring wage labor, and absences from the *ejido* could lead to the loss of land rights. By the early 1990s, the *ejido* sector accounted for half of Mexico's farmland and three quarters of the nation's producers. It provided a critical instrument for the government to implement its production and marketing policies for the agricultural sector. With the reforms that began in the late 1980s, the relationship between the *ejidos* and the state underwent a dramatic change. Restrictions on the sale and rental of *ejido* land and on the hiring of labor were lifted. The state no longer told the *ejidatarios* what to grow and how to market their output. At the same time, the government no longer provided widespread technical assistance, input and output subsidies, or marketing channels. It could be that the poor have been hurt in the short term by the termination of gov-

ernment support programs for farmers following the liberalization of Mexican agriculture agreed to as part of NAFTA. Yet this is far from certain, since programs such as input and credit subsidies tended to favor large farmers, and since lower agricultural prices may have helped the poorest, who are also net consumers of maize and other crops. Moreover, rather than talking of a reduction in government support to rural areas, it is more precise to talk of a change in the type of support provided, with the implementation of new programs such as PROCAMPO and *Alianza*.

PROCAMPO

PROCAMPO, a cash transfer program facilitating the transition to a rural market economy, reduces poverty among beneficiaries, and it may have a multiplier effect on income. Since 1993–94, under the management of the SAGAR, PROCAMPO has provided cash transfers to eligible agricultural producers of basic crops. The transfers are provided on a per-hectare basis and will be phased out in 2008. In the 1997 fall–winter season, PROCAMPO's transfers totaled MXP\$7.5 billion and were distributed to 3 million producers, covering 90 percent of Mexico's cultivated land. According to data from a SRA/World Bank panel survey of households living in the *ejido* sector, the average payment per producer in 1997 was MXP\$2,516 (for an average of 5.2 hectares), and 84 percent of all *ejidatarios* participated. Despite a decrease over time in the value of the transfers, the program reduces poverty and inequality (details on PROCAMPO's rules of operations are available in the *Diario Oficial de la Federación*).

- *Impact on Poverty.* According to the 1997 SRA/World Bank survey, PROCAMPO contributed an average of 8 percent toward the *ejidatarios'* household income across all income deciles, and up to 40 percent in the poorest decile. It should be no surprise, therefore, that controlling for other household characteristics, participation in PROCAMPO reduced the probability of being poor. More interesting is the fact that using the panel structure of the survey, PROCAMPO appears to have a multiplier effect over time, in that a transfer of 1 peso leads to benefits of 2 pesos. This multiplier may, but need not be, Keynesian (higher income leads to higher consumption, which generates employment and more income). It may also be due to the possibility for producers to take more risks with higher-yielding investments thanks to the security provided by the transfer. Using other surveys, PROCAMPO has also been shown to reduce income inequality, but not to a very large extent, due to the high transfers received by large land owners.
- *Areas for Improvement.* To increase the impact of the program, the government could: (a) pay the transfers earlier in the crop cycle, or at least announce the amount of payment prior to planting, to facilitate the purchase of inputs and to encourage investments among producers by providing a more secure expected income; (b) allow *ejidatarios* to use part of their payment as a collateral for loans; and (c) simplify the eligibility criteria, and promote better

awareness of these criteria, especially among the indigenous population. Progress has recently been made on recommendations (a) and (b). In addition, a larger impact on inequality and poverty could be achieved by reallocating funds so that the amount received per hectare becomes a decreasing function of the number of hectares cultivated. This may not be the main priority right now, but it could be considered in the future.

Alianza para el Campo

Alianza had not reduced poverty by 1997, but this may be because more time is needed to realize benefits. *Alianza* was introduced in 1996 to provide matching grants to agricultural producers to boost investments. It is the third-largest program managed by SAGAR and accounts for 10 percent of the Ministry's expenditures. The main subprograms are ferti-irrigation; mechanization; rural equipment; pasture improvement; and kilo-for-kilo, which provides growers with 1 kilo of certified seeds for the price of 1 kilo of normal seeds. *Alianza* is decentralized, with cofinancing required from state governments and beneficiary producers. While the cofinancing requirements vary by subprogram, producers tend to contribute an average of 50 percent, the federal government 32 percent, and the state governments 19 percent. In 1997 1 million producers participated in *Alianza*. Of these, two thirds were private producers, 11 percent (120,000) were *ejidatarios*, and 22 percent (241,000) were *comuneros*.

- *Impact on Poverty.* Using the 1997 SRA/World Bank *ejido* survey, *Alianza* was not found to have a significant impact on poverty among *ejidatario* households. This may be because poor *ejidatarios* lack resources to provide the counterpart funding necessary for participation, and thus tend to participate in the subprograms where counterpart funding requirements (but probably also program outcomes) are lower—such as the kilo-for-kilo program. But it may also be because the data collected in 1997 could not yet reflect the benefits of investments made in 1996. It must also be noted that the *ejido* survey is not representative of all the beneficiaries of the program. Finally, it could be that some subprograms of *Alianza* are more poverty reducing than others (this could be the case of *Alianza* subprograms for low-income producers which are part of the targeted programs considered by the government in its overall strategy for poverty reduction).
- *Areas for Improvement.* To increase the impact of the program, the government could: (a) improve its dissemination in the *ejido* sector so that a larger proportion of *ejidatarios* are aware of the program, understand its objectives, and are clear on how to access the resources; (b) eliminate the requirements for group participation (which may be difficult for the poorest) in some subprograms; and (c) allow the *ejidatarios* to purchase their own inputs directly from local distributors (rather than government-certified distributors), even if this implies that the purchase price may (but need not) at first be higher.

PROCEDE

PROCEDE may have a positive impact on social capital, thereby reducing poverty. It is the land titling program which was created in 1992 to implement the revised Article 27 of the Constitution and the Agrarian Laws approved earlier that year. According to official data, as of December 1997, 79 percent of the *ejidos* were participating in PROCEDE and 59 percent had received *ejidatario* certificates and house titles. The program was expected to have three main benefits. First, it would encourage investment in *ejido* land because farmers gained greater land security. Second, the reforms would increase the supply of credit, because farmers could use their land as collateral for loans. Third, the ability to engage in rental and sale transactions would promote a more efficient allocation of land among producers. A fourth, unanticipated positive outcome of PROCEDE is that it may have helped at the margin to increase social cohesion and decrease land disputes in the *ejido*, thereby contributing to social capital, which itself has been shown to help in reducing poverty. In the SRA/World Bank 1997 survey, *ejidatarios* were asked whether PROCEDE has had an impact on a number of issues. Two thirds of the respondents replied that PROCEDE did not affect such things as land tenure conflicts, social cohesion, access to credit, migration, land markets, and land investment decisions. However, when PROCEDE was cited as having an impact (by one third of the respondents), those thinking it had a positive impact outnumbered those thinking it had a negative impact. It is in this sense that PROCEDE can be said to have had a positive impact on social capital. In turn, social capital was found to have facilitated the adoption of PROCEDE in the *ejidos*.

Agricultural Programs and the Indigenous Populations

The indigenous differ from the nonindigenous in their attitude toward government programs. Indigenous populations in Mexico make up 10 percent of the population (10 million people), and a much larger share of the poor. In rural areas, they are concentrated in *ejidos* and other traditional communities. Government policy toward the indigenous populations has historically promoted integration rather than an alternative model of development, and indigenous communities have not always responded positively to the government's interventions. A comparison of the attitudes of the indigenous population toward PROCEDE, PROCAMPO, and *Alianza* confirms the existence of an indigenous specificity. Being indigenous or not was found to have more influence on the attitude toward government programs than other household characteristics, such as being poor or not. For example, controlling for these other household characteristics, the indigenous were found to be less likely to be in favor of PROCEDE and *Dominio Pleno* (which refers to the full privatization of the land) than the nonindigenous, not because they fear losing their land, but because of the potentially negative impact of the program on the community. Yet, at the same time, where PROCEDE has been implemented, the indigenous have judged its impact on the community more favorably than the nonindigenous, underscoring the fact that when an indigenous community takes the decision to go

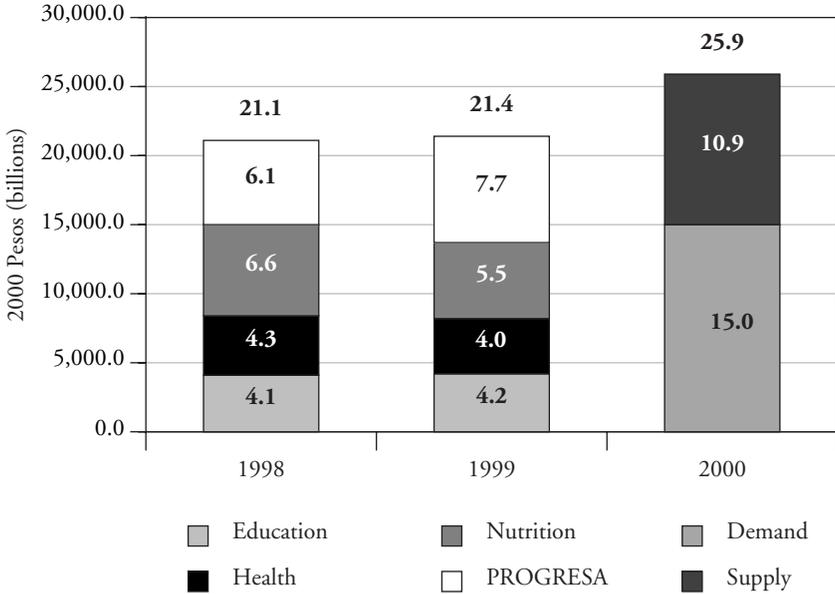
for land titling, it tends to be based on wide agreement within the community. The analysis of indigenous attitudes also suggests that the lack of knowledge about PROCAMPO and *Alianza* was more a reason for not participating in the programs among the indigenous population than among the nonindigenous. This suggests that the government should make a deliberate attempt at better informing the indigenous population about its programs and their requirements, a finding measured in the *ejido* survey but likely to be valid in other policy areas as well.

Because the indigenous populations are among the poorest, additional work on how to help them emerge from poverty should be conducted. For example, in the report on which this Chapter is based, the evaluation of government programs in agriculture did not have the information available to analyze structural issues related to different needs or interests among indigenous populations with communal or *ejido* tenure, where traditional governance and values persist. In addition, while this Chapter does compare the impact of education programs such as PARE on school performance among indigenous and nonindigenous populations (in Section IV), it does not discuss the evidence available in both the developed and developing world that bilingual education can be viewed as much more than teaching in two languages. Bilingual education can be, in the case of marginalized peoples, a curriculum aimed at building skills, self-esteem, self-empowerment, parental involvement, and adaptive learning. In healthcare, work could be done on the use and effectiveness of indigenous medicinal treatments, and on whether programs such as PROGRESA and PAC should take into account indigenous medicinal practices. The data available for this Chapter also provided little information about a number of other indigenous initiatives, such as informal credit systems, that may create a synergy with particular types of government interventions (such as the *Fondos Regionales Indigenas*), and thereby improve the impact of government programs. The fact that some government programs are not building on such synergies is one of the main criticisms of government planning put forth by the indigenous leadership.

IV. Investments in the Human Capital of the Poor

Mexico has put in place targeted programs for investing in the human capital of the poor. There is ample evidence that programs benefiting the education, health, and nutrition of children have long-term positive impacts on their well-being. Hence governments around the world have implemented programs dealing with these issues. Mexico's originality is that it is trying to build on the linkages between education, health, and nutrition. This is taking place mainly through PROGRESA, Mexico's new flagship program for the reduction of poverty. Apart from PROGRESA, Mexico currently has three other groups of programs dealing, respectively, with food (subsidies and school breakfasts), compensatory education, and healthcare for the uninsured. The funding levels for 1998 and 1999 (in 2000 pesos) for these four categories of programs are provided in Figure 7.

Figure 7. Spending for Human Capital, 1998–2000



Source: Government of Mexico (1999).

For 2000, the funding is presented in a different format, according to whether the programs are demand or supply side. The demand-side programs include the education component of PROGRESA, *Niños de Solidaridad* (The *Estimulos a la Educación Básica* component of FAIS), the school breakfast programs of DIF, the nutrition component of PROGRESA, the means-tested subsidized milk program (Liconsa), and the means-tested tortilla program (*Abasto de Tortilla de Fidelist*). The programs on the supply side include, for health, PAC, IMSS-Solidaridad, the health component of PROGRESA, the social assistance of INI, and the social security program for agricultural laborers. For education, the supply-side programs include the CONAFE programs, the *Albergues Indígenas* of INI, and the telesecondary program. For nutrition, the supply-side program includes the DICONSA stores. This section analyzes PROGRESA, including a review of preliminary evaluation results; evaluates both food subsidies and school breakfasts, and compares them; and describes compensatory education and evaluates the impact of PARE.

PROGRESA

PROGRESA's share of funds has increased, while funding for food assistance has decreased. Real expenditures for human capital programs are rising, in large part due

to the implementation of PROGRESA in 1997. By the end of that year, the program was under way in 12,000 localities and 500 municipalities in 13 states, providing benefits to 400,000 families. Today, the program covers 2.6 million families, which represents 4 out of every 5 families in extreme poverty in rural areas, and 14 percent of Mexico's population. PROGRESA's share of funds devoted to human capital is increasing.

The share of funds devoted to the other programs is decreasing, with the largest drop affecting nutrition (especially food subsidies; these subsidies could however be considered as income transfers to the extent that evidence is lacking regarding their impact on nutrition). This is a deliberate and appropriate choice made to favor programs which are better targeted and which involve co-responsibility on the part of beneficiaries. One issue is that programs such as PROGRESA do not reach the smallest and remotest communities, so that part of the rural population does not benefit from the reform of the programs implemented in the last sexenio.

PROGRESA Has Sound Features, but There May Be Areas for Improvement

PROGRESA aims to improve education, health, and nutrition among the rural poor, and to build on positive linkages between them. Preliminary evaluation results are encouraging. Education has a positive impact on health. In Mexico, infant mortality rates are twice as high among households with illiterate mothers as among households with mothers having at least 7 years of basic education. In turn, good health and nutrition have positive effects on education, if only because they improve a child's learning ability. PROGRESA provides integrated support at the household level for education, health, and nutrition, with the hope that the impact of the program as a whole will be larger than that of its parts. The preliminary results of an evaluation conducted by PROGRESA staff with the support of IFPRI are encouraging. The morbidity among children between ages 0 and 2 has diminished by 22 percent. The female enrollment rate in secondary-level schools has increased by 21 percent. The attendance at health clinics has increased by 18 percent. Overall, school attendance has increased by 1 year, which could translated in the future into an increase of lifetime earnings of up to 12 percent. These results alone would make the program cost-effective.

PROGRESA's targeting mechanism is basically sound, but some questions remain. PROGRESA uses a three-stage targeting mechanism. First, using census data, poor rural localities are selected on the basis of their level of marginalization. Because local access to education and health services is required for participation, some highly isolated localities are excluded. The second stage consists of selecting eligible families within participating communities. For this, PROGRESA collects data on all households living in participating communities. A multivariate discriminant analysis is used to classify households as poor or nonpoor. The analysis takes into account not only income, but also other indicators. Families classified as nonpoor cannot participate in the program. The third stage consists of checking the selection of the program beneficiaries within the community: local communities

have the opportunity to review the targeting proposed by PROGRESA, and to suggest a second visit by PROGRESA staff if they believe that some poor families should be reclassified as nonpoor or vice versa. While the targeting mechanism used by PROGRESA is basically sound, a few issues remain:

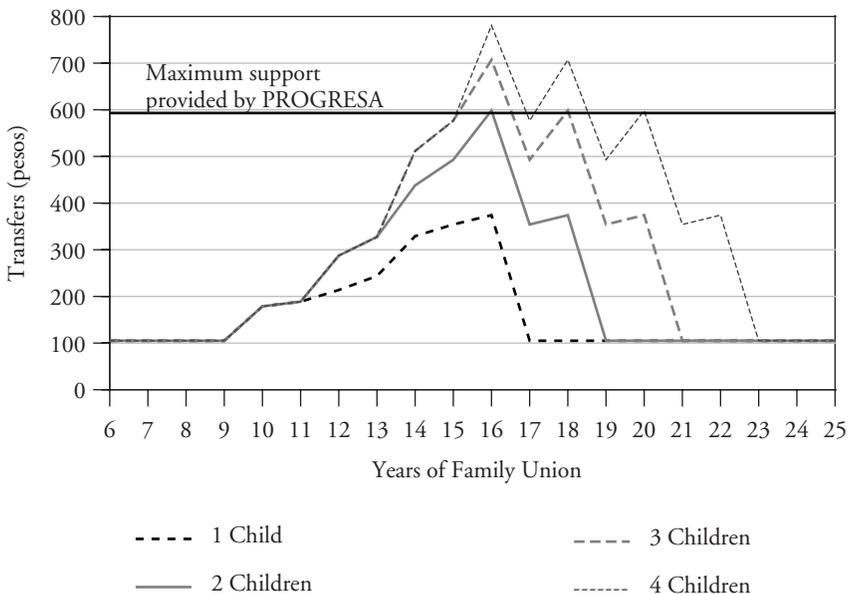
- *Community Involvement.* There is some evidence that PROGRESA's targeting system is not always successful in identifying the needy. It is of course impossible to achieve perfect targeting and, overall, PROGRESA does a good job at selecting beneficiaries. The third step in the targeting procedure could help in going beyond the statistical correlation between observable signs of income status (house materials for example) and well-being in order to select beneficiaries. Yet, while community-based knowledge exists about who are the most needy, the classification of poor or nonpoor households remains solely based on the prediction made by PROGRESA staff on the basis of the results of the field survey. One of the reasons why the targeting process is centralized has to do with the desire to avoid political interference in the choice of beneficiaries, and to achieve fairness nationally. Nevertheless, more thought may be needed to assess the role of communities in targeting, not as a primary selection mechanism, but as a useful complement.
- *Need for Targeting in Very Poor Communities.* Another question relates to the very need for targeting in some of the poorest rural communities. The higher the proportion of the poor in a community, the less the need to target within that community, especially if targeting is costly not so much in terms of administration (the administrative cost is low, at MXP\$170 per household at most), but rather in terms of social cohesion. PROGRESA has increased the percentage of households receiving benefits in participating communities, with three out of four households now receiving support. In some communities, the percentage is higher. In these communities, rather than leaving a few families without access to the program, it may be better to grant it to all in order to avoid conflicts. This choice has been recommended by IFPRI in Honduras, where it is advising on the redesign of PRAF, a program similar to PROGRESA. However, one problem with the idea of not targeting the program in small and highly marginalized localities is that two households living in different localities but otherwise similar would be treated differently, which raises issues of fairness.

PROGRESA's use of cash grants is appropriate, but the level of the grants is relatively high. PROGRESA provides cash grants in return for parents sending their children to school and using health facilities. The use of cash grants is in principle appropriate because it avoids utility losses associated with in-kind support. The program also provides valuable incentives through its requirements. Yet more work is needed to assess whether the program's cost-effectiveness is optimal. In 1999, the educational grants ranged from MXP\$70 per child in third grade of primary school to MXP\$255 per child in the third year of secondary school (the grants are the same

for boys and girls in primary school, but they are slightly higher for girls than for boys in secondary school). Families can have several children benefiting from the cash grants up to a maximum cumulative amount of MXP\$525 per month (see Figure 8). The children also receive a lump-sum payment per year for schooling material (MXP\$45 in primary school and MXP\$170 in secondary school). Finally, the families receive both monthly cash grants of MXP\$105 to help them meet their nutritional requirements, and food supplements free of charge. While on average families receive about MXP\$250 (22 percent of their income), they can receive up to MXP\$600 per month depending on the number and age of the children.

While the grants may represent a premium over the wages children would earn if they were working, international experience suggests that grants below the prevailing child labor wage may be sufficient to keep children in school because parents value schooling in itself (for altruistic reasons or future intergenerational transfers). To justify the high level of the PROGRESA grants, it could be argued that the grants should provide not only schooling incentives, but also improve the families' overall level of income and quality of life. The question, however, is whether there may be more cost-effective ways to reach this objective. Another argument for the relatively high level of the PROGRESA grants has to do with opportunity costs for participating in the program not directly related to child labor. In some isolated communities it takes time for parents to go to the office where the PROGRESA allowances are paid. These and other transaction costs may make it necessary to provide higher

Figure 8. Monthly Cash Transfers from PROGRESA



payments to induce participation, but again, more work may be needed to establish optimal benefit levels.

PROGRESA is succeeding in raising school enrollment and the demand for healthcare, but this generates tensions on the supply side. According to data from PROGRESA, school enrollment has increased substantially. Critics argue, however, that while PROGRESA is increasing enrollment, the quality of education is suffering as a result of this increase. Some schools may have found themselves ill-prepared to handle the larger student body. The larger issue in terms of the quality of the education provided relates to the impact of PROGRESA on educational achievement, and ultimately on future earnings. To assess such long-term benefits in a robust way, it may be necessary to follow cohorts of PROGRESA students well into the next decades. As for schooling, the demand for healthcare has increased, but a number of problems remain. At least at the beginning some clinics have had a hard time handling the extra work generated by the program. There is anecdotal evidence that some beneficiaries have had to wait for long periods, and the examinations performed by physicians have not always been thorough due to time constraints placed on them. Some beneficiaries who had to travel for several hours to reach a clinic were told they would not be able to see a doctor and had to return at a later date. Some health centers have been running out of medicine.

PROGRESA may also be encountering resistance to family planning in some indigenous communities. Here, the larger issue is how receptive beneficiaries are to PROGRESA's intended message of preventive self-care, and how attentive health staff are to the social context in which they operate. Steps have been taken to coordinate PROGRESA's action with that of SEP and SSA, but more may be needed to optimize demand- and supply-side interventions and assess the relative impact of both. In Honduras, for example, where IFPRI is building on its experience with PROGRESA in order to advise PRAF staff on how to improve their program, it was decided to evaluate the relative impact of demand-side and supply-side interventions by testing four combinations of programs: demand-side only, supply-side only, no intervention, and both interventions.

Food Programs

Mexico maintains food subsidies for milk and tortilla, and a network of public stores. The three government programs providing food subsidies are LICONSA (milk), Fidelist, and DICONSA (stores in poor rural areas). Their total cost in 1998 was MXP\$6.1 billion.

- *Milk.* For the past 15 years, LICONSA (*Leche Industrializada Conasupo*) has been producing milk for Mexico's poor. Qualifying families can purchase from 8 to 24 liters of milk per week at a discount of roughly 25 percent off the market price. To qualify, families must earn less than two minimum wages and have children under age 12. The ration of milk is determined by the number

of children under age 12 (8 liters for families with one or two children, 12 liters for families with three children, and 24 liters for families with 4 children or more). About 5.1 million children benefit from the subsidies.

- *Fidelist*. The tortilla program administered by Fidelist is accessible to families earning less than two minimum wages. These families are eligible to receive 1 kilogram of subsidized tortilla per day. Participants use a bar-coded card which is scanned at participating *tortillerias*. The owner of the *tortilleria* is later reimbursed for the cost of the subsidized tortillas he or she has distributed.
- *Public Stores*. DICONSA (*Distribuidora Comercial Conasupo*) is a public network of small stores providing basic products such as rice and toilet paper to marginalized rural communities. Goods are sold at low prices, yielding an average savings of 16.5 percent for beneficiary households. A central feature of the program is community participation through local Rural Committees of Supply. The program operates in 2,300 municipalities, with 23,468 points of sales. In 1997 it sold 1.6 million tons of products, bringing its sales total for that year to MXP\$5.7 billion.

Means-tested food subsidies are more effective than other subsidies in reducing inequality and improving welfare. An analysis of the impact on inequality and social welfare of subsidies shows that the long-anticipated phasing out of the general subsidy on tortilla in the first few months of 1999 was warranted because means-tested food subsidies are more inequality-reducing and less price distorting.

- *Food Subsidies are Better than Nonfood Subsidies*. For many years the government provided general subsidies on tortilla. Part of the rationale was that since

Table 1. Coverage of Food Subsidies, 1998

<i>LICONSA</i>	
Points of sale for LICONSA milk (number of dairies)	11,052
Beneficiary municipalities	1,912
Beneficiaries (in thousands)	5,100
<i>DICONSA</i>	
Points of sale for DICONSA (stores)	23,468
Target beneficiary population (thousands)	33,798
Value of distributed volume (millions of pesos)	6,630
<i>Subsidized tortilla</i>	
Kilograms of tortilla distributed per day (thousands)	1,512
Localities attended	1,024
Affiliated tortillerias	13,973

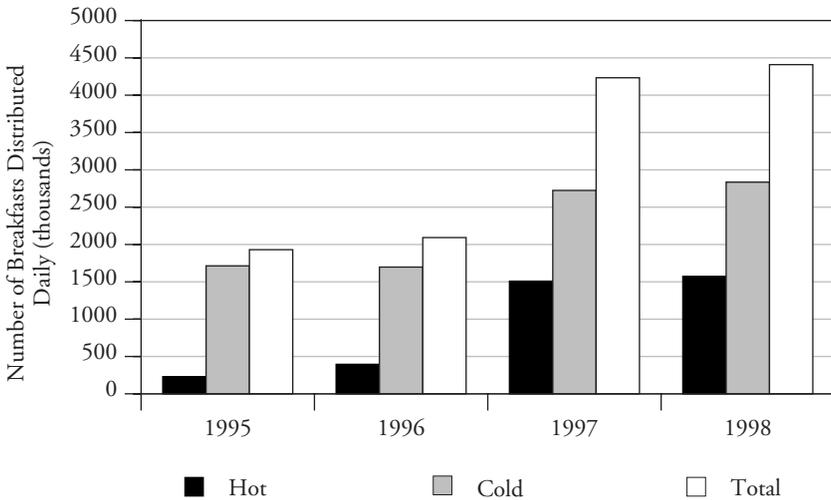
Source: Government of Mexico.

tortilla represented a larger share of the consumption of the poor, the subsidy was to some extent self-targeted. It is true that the tortilla subsidy reduced inequality, especially in urban areas, and much more so than subsidies for utilities such as water and electricity. However, the tortilla subsidy generated price distortions and was costly. Furthermore, it was significantly less effective in reducing inequality than a similar generalized subsidy would have been on corn flour, for example.

- *Within Food Subsidies, Means-Tested Subsidies are Better than Generalized Subsidies.* Using the 1996 INEGI and the 1997 ENCASEH surveys, it has been shown that the marginal reduction in inequality in consumption achieved with the generalized tortilla subsidy does not come close to the reduction achieved with the means-tested subsidies provided by LICONSA and the means-tested tortilla program.
- *Within Means-Tested Food Subsidies, LICONSA and the means-tested Tortilla Program Have Similar Impacts.* In rural areas, LICONSA has a larger marginal impact on inequality, but the means-tested tortilla program is more inequality reducing in urban areas and nationally. Overall, the two programs have similar impacts, but the cost of implementing the means-tested tortilla program is lower than that of implementing LICONSA.

The government also provides school breakfasts, food support, and community kitchens through three food programs administered by DIF (*Desarrollo Integral de la Familia*):

- *School Breakfasts.* By end of 1998, DIF's school breakfasts were distributed in more than 2,400 municipalities. From 1995 to 1998, the number of breakfasts distributed daily more than doubled from 1.9 million to 4.4 million. While higher priority is now being given to hot breakfasts (Figure 9), whether this represents a good use of resources needs to be assessed because hot breakfasts imply higher costs, which need not translate into higher learning gains or nutritional impacts. The federal government pays 63 percent of the program's cost, and the rest is covered by states and municipalities. Through local committees, 400,000 mothers participate each day in the preparation of the breakfasts, which is a plus in terms of community involvement, but which also represents an opportunity cost in terms of time for the families involved. While the program had an urban bias in the past, today the rural southern states receive a higher share of the breakfasts.
- *Food Support.* DIF's PASAF (*Programa de Asistencia Social Alimentaria a Familias*) provides monthly in-kind food support for families with children under age 5 or pregnant women. By the end of 1998 the program served 1.4 million families in 1,633 municipalities. Of these, 10 percent were indigenous families and 30 percent lived in areas of high marginalization.

Figure 9. Coverage and Type of School Breakfast

Source: DIF.

- *Community Kitchen.* DIF supports community kitchens by providing equipment and part of the cost of food with the idea that, in addition to benefiting nutrition, these interventions will contribute to the social fabric of the communities and serve as anchors for other education and health interventions. By end 1998, 6,067 kitchens were operating in 1,159 municipalities serving 520,000 beneficiaries.

To some extent, DIF's school breakfasts and *Niños de Solidaridad* improve school enrollment and reduce child labor in rural areas. The aim of the government's food programs is to improve nutrition for the poor, and thereby to build their human capital. While the impact of food programs on nutritional outcomes and learning performance cannot be measured with the data at hand, other criteria such as the impact on school enrollment and child labor can be used to assess how the programs build human capital.

- *Impact of DIF's School Breakfasts.* While food subsidies are unlikely to have strong impacts on school enrollment and child labor, DIF's school breakfasts may have an impact because they are provided in schools. If the benefit of a school breakfast is assimilated to a reduction in the price (opportunity cost) of going to school, economic theory predicts that school breakfasts will increase school enrollment, while the impact on child labor is uncertain due to substitution with leisure. In empirical work based on the 1997 ENCASEH

survey, DIF's school breakfasts were found to have a larger impact on schooling than on child labor, as expected.

- *Impact of Niños de Solidaridad.* This program, whose name was recently changed to *Estímulos a la Educación Básica*, is run by SEDESOL. It gives grants to children who complete the first three years of their elementary education in the hope of providing them with an incentive to complete their primary education. Between 1995 and 1997, 857,000 children were awarded scholarships. An analysis similar to that performed for DIF's school breakfast also indicates some impact on schooling and child labor, but not in a systematic way.

DIF's programs and *Niños de Solidaridad* tend to be better targeted than food subsidies. Table 2 provides measures of the targeting effectiveness of food programs using the 1997 ENCASEH. Although there may be underreporting in the survey as to who benefits from the programs, and although the results may be sensitive to the choice of the poverty line, DIF and *Niños de Solidaridad* are clearly better targeted to the poor than means-tested food subsidies, in large part because the means-tested tortilla program and LICONSA are mainly available in urban areas where the incidence of poverty is lower. The same applies to DICONSA (not shown in the table), whose stores are not available in some of the poorest rural communities. Overall, the placement of food programs is apparently driven not only by income considerations, but also by (ease of) supply considerations.

- *DIF, Niños de Solidaridad, and PROGRESA Provide Incentives, While Food Subsidies Do Not, or at Least Do Not to the Same Extent.* Parents must send their children to school if they want to benefit from school-based programs, while they have no such obligation in order to benefit from food subsidies. Of course, there is no guarantee that by increasing school attendance, school-based programs actually increase the human capital of the poor. Beyond the immediate benefit of the programs, parents must buy into the importance of schooling and help their children at home. The schools must also be of sufficient quality for the children to be able to learn. But at least programs with built-in positive incentives, such as DIF, *Niños*, and PROGRESA, hold the promise of bringing long-term changes for the poor. This is less the case with food subsidies. Thus, the strategy of the government to progressively decrease food subsidies is sound.
- *Better Programs Could Be Implemented in Urban Areas if Food Subsidies Were Reduced.* A risk in scaling back food subsidies further is that urban areas may suffer. As noted in the introduction, the current split of the targeted expenditures for the reduction of poverty between urban and rural areas is adequate. Yet cutting food subsidies, which are mostly urban based, could tilt the balance too much in favor of rural areas. Thus the ideal would be to reorient food subsidies toward urban programs which yield benefits similar to what PROGRESA is achieving in rural areas.

Table 2. Targeting Performance of Food Programs (DIF programs and food subsidies)

	<i>All</i>	<i>National Poor</i>	<i>Non Poor</i>	<i>All</i>	<i>Urban Poor</i>	<i>Non Poor</i>	<i>All</i>	<i>Rural Poor</i>	<i>Non Poor</i>
Participation Rates (percent of individuals in the group receiving the program)									
DIF food support	2.6	5.5	1.5	1.1	1.5	1.0	7.0	8.5	4.6
DIF school breakfasts	8.7	14.3	6.0	5.8	7.4	5.4	16.1	19.4	9.7
Niños de Solidaridad	3.8	6.5	2.5	2.2	3.8	1.8	7.8	8.4	6.5
Subsidized tortilla	6.7	6.3	6.8	8.3	11.8	7.6	2.2	2.1	2.4
LICONSA	8.5	7.4	8.9	10.4	12.2	10.1	2.7	3.6	1.5
Share of Participants (percent of beneficiary individuals in each group)									
DIF food support		57.1	42.9	32.0	20.9	79.5	68.0	79.8	28.7
DIF school breakfasts		54.2	45.8	47.1	25.2	74.8	52.9	79.9	20.1
Niños de Solidaridad		56.4	43.6	41.3	34.5	65.5	58.7	71.9	28.1
Subsidized tortilla		25.9	74.1	91.6	22.5	78.1	8.4	60.7	39.5
LICONSA		23.9	76.1	91.8	19.2	81.1	8.2	91.0	22.5

Source: World Bank staff estimates.

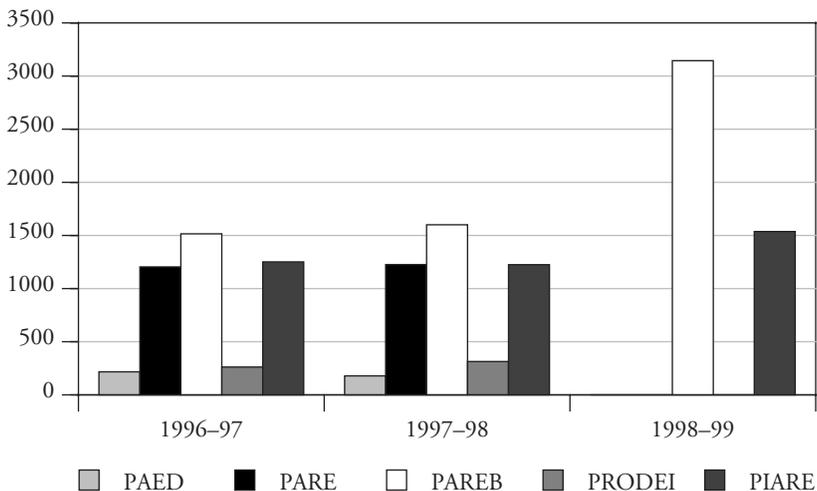
- *Further Cost-Benefit Analyses Should Be Conducted for Food Programs.* To better assess the performance of various programs, detailed cost-benefit analyses should be prepared by combining survey-based impact evaluations of food programs with administrative records on costs and outreach. More information is also needed about the relative costs and efficiency of cash transfers, food subsidies, food stamps, and direct food handouts, and on the ability of food markets to function well.

Compensatory Education

While PROGRESA is demand driven, compensatory education seeks to improve the quality and supply of schooling. The geographic dispersion of marginalized rural areas presents obstacles for educators and families. Teachers usually teach in a single classroom with children of all ages. Children must travel vast distances to reach their schools, creating logistical problems for their families. The quality of educational materials and instruction provided to children is commonly substandard. In many cases, education beyond sixth grade simply does not exist. Not surprisingly, the academic achievement of these children falls below national averages. The following programs have been implemented to deal with this (Figure 10):

- *PARE.* Initiated during the 1991–92 school year, PARE's (*Programa para Abatir el Rezago Educativo*) objective is to improve regular, rural, and indigenous primary education in the states of Chiapas, Guerrero, Hidalgo, and Oaxaca. A four-year program, PARE provides schools with improved materials

Figure 10. Compensatory Education Programs



such as textbooks. It also provides financial incentives for teachers, for example to assist in a regular way to classes and to provide support to the children outside of the classroom. PARE has improved education facilities through the construction and repair of schools and the creation of libraries. The program had 1.2 million beneficiaries in 1997.

- *PAREB*. Based on the experiences of PARE, *PAREB (Programa para Abatir el Rezago en Educación Básica)* began in 1994 and continued through the 1998–99 school year in 10 states: Campeche, Durango, Guanajato, Jalisco, Michoacán, Puebla, San Luis Potosí, Tabasco, Veracruz, Yucatán.
- *PIARE*. The *Programa Integral para Abatir el Rezago Educativo* was initiated in 1995 and will be continued through 2000. The program supports preschool, elementary school, and adult education programs in selected communities. It had 1.2 million beneficiaries in 23 states in 1997.
- *PRODEI*. Undertaken in 1981, *PRODEI (Programa para el Desarrollo de la Educación Inicial)* works with parents of children under age 4 to improve child rearing and cognitive development to facilitate the transition to primary education. In 1997 the program had 313,000 beneficiaries in 10 states.
- *PAED*. The *Programa de Apoyo a Escuelas en Desventaja*, was created in 1992 to address the needs of schools not supported by PARE, PAREB, and PIARE. The program provides supplies and furniture to schools in Aguascalientes, Baja California, Baja California Sur, Morelos, Nuevo León, Tamaulipas, and Tlaxcala. It had 178,500 beneficiaries in 1997. Beginning with the 1998–99 school year, the program will be replaced by PIARE in these regions.

The positive impact of PARE is weaker for the poorest of the poor and for indigenous children. Previous analyses have shown that on the whole PARE has had a positive impact on student test scores. But what is the impact of the program on the poorest of the poor? Additional analysis of the PARE panel data was undertaken to answer this question. Four results were obtained. First, controlling for other child, household, and school characteristics, participation at the school level in PARE did not significantly improve the test score in Spanish (in sixth grade) of the poorest children of the indigenous group, while the program had positive impacts on less-poor indigenous children. Second, in the sample of nonindigenous rural schools, PARE improved the learning achievement of both very poor and less-poor children, although the former benefited slightly less than the later. Third, taking both indigenous and regular rural schools together, it would appear that the poorest children increased their Spanish test scores by only half of the gain achieved by less-poor children. Fourth, in the urban sample the PARE interventions appeared to have significantly negative effects on Spanish test scores for both the very poor and the poor. The negative impact (in absolute value) was larger among the poorest students. It is difficult to explain this negative impact in urban areas, but it should be noted that the PARE program did not pay much attention to urban schools, except toward the end of the life of the program. In addition, the fact that PARE did not improve

much the Spanish skills of very poor and indigenous children may be due to factors such as poor nutrition and health status among these groups. It would be interesting to test whether programs such as PROGRESA achieve better results. Overall, the conclusion of the analysis is that while supply-side interventions can boost the learning achievement of children, special attention and more resources may need to be devoted to the poorest of poor children.

V. Income Opportunities for the Poor

Government-run programs focus on employment generation in rural areas and training in urban areas. With the liberalization of the Mexican economy, the labor market is undergoing transformation. In urban areas, the requirements for skills are rising and the labor force needs training. In rural areas, temporary employment programs are needed to maintain income opportunities during seasonal slowdowns. Credit and training are also needed to help the rural population make the transition to the nonfarm sector. Finally, while employment opportunities must be created for adults, there is a need to reduce child labor and increase schooling. This section is devoted to selected employment issues. It appraises the targeting and cost-effectiveness of PET; briefly describes the other employment and credit programs targeted to the poor; and discusses PROBECAT, the training program for the unemployed mainly in urban areas.

Programa de Empleo Temporal

This program provides off-season temporary employment below minimum wage in marginalized rural areas. PET provides short-term employment on public projects in marginalized rural areas. Employment is for up to 88 working days at 90 percent of the minimum wage. In 2000, PET's budget will be MXP\$4.8 billion, more than half of the budget devoted to income opportunities for the poor. In total, close to 100 million workdays and 1 million jobs will be created.

Apart from benefiting participants through the provision of an income during periods of high unemployment or underemployment, PET benefits communities by building infrastructure and responding to local needs. Projects are labor intensive. Examples include irrigating land, paving roads, clearing land, improving housing, and installing water and sewerage systems. PET has national coverage, but a large share of funds is spent in the Southern states, which are poorer. Separate PET programs are administered in these areas by the Ministry of Social Development (SEDESOL, 47 percent of total funds), the Ministry of Transport and Communications (SCT, 33 percent), the Ministry of Agriculture (SAGAR, 17 percent), and the Ministry of the Environment (SEMARNAP, 3 percent) (Figure 11).

Program participants need PET more than nonparticipants, and they are poorer. Data on PET participants are available in the 1997 ENCASEH survey for margin-

Figure 11. Government Spending for Income Employment, 2000 Pesos

Source: Government of Mexico.

alized rural areas (which are those targeted by the program). A few summary indicators for participants and nonparticipants are given in Table 3. According to the monthly income of the household head, participants are poorer than nonparticipants (with nonparticipants themselves poorer than the national average, since the survey was conducted in poor areas). But if one uses literacy or assets as proxies for well-being, participants are better off than nonparticipants. Participants are less likely to be indigenous and agricultural laborers. A striking difference between participants and nonparticipants is, as expected, that participants need temporary jobs more than nonparticipants because they do not benefit as often from an occupation that keeps them employed all year long. This is either because they are involved in seasonal work or because they work on a solicitation basis. PET thus helps alleviate underemployment, which is its goal.

PET may not reach the smallest and most isolated rural communities. The community-level data of the 1997 ENCASEH for marginalized rural areas also enable us to compare the characteristics of the communities benefiting from PET with those which do not benefit (10.8 percent of 6,886 sampled communities benefit). On average, PET communities are almost twice as large (575 inhabitants versus 344) as non-PET communities. PET communities have better access to electricity (74 percent versus 60 percent), public phones (33 percent versus 19 percent), preschools (81 percent versus 67 percent), primary schools (89 percent versus 82 percent), and telesecondary schools (22 percent versus 11 percent). Thus, the pro-

Table 3. Characteristics of PET Participants

	<i>Participants</i>	
	<i>Yes</i>	<i>No</i>
Household Characteristics		
Household size	5.4	5.2
Age of household head	46.8	44.6
Indigenous language for head	40.1%	48.4%
Literacy for head	76.0%	61.7%
Principal Occupation of Head		
Agricultural laborer	33.5%	44.5%
Work in Principal Occupation		
From time to time	14.0%	8.4%
A few months per year	29.8%	19.1%
All year long	56.3%	72.5%
Reason Why Not All Year Long		
Seasonal-type work	68.6%	81.3%
Work only when solicited	21.2%	13.9%
Assets		
House owner	97.3%	93.3%
Land owner	83.5%	65.0%
Monthly Income of Head		
Household income	578	628
Per capita income	128	153

Source: World Bank staff estimates.

gram may not reach the smallest, most isolated, and in all likelihood poorest, communities. While part of this targeting problem may be due to the higher costs of reaching smaller communities, part may also be due to the lack of bargaining power of small communities in obtaining funds from program administrators at the state level.

The cost of generating 1 peso in additional income for the poor through PET is about 3.5 pesos, but this does not take into account the benefits from the work done by PET workers. As indicated in Box 1, rough appraisal methods are available to assess the cost-effectiveness of employment programs such as PET. While these methods do not replace detailed econometric analysis (for which better data on PET would have to be collected), they provide an order of magnitude of the benefits of the program. The measure of cost-effectiveness used is the share of total program costs which reaches the poor through PET's wages. This share is a function of four

Box 1. A Simple Framework for Measuring the Cost-Effectiveness of Public Works

Assume that without public works, an individual has a probability F^* to find employment at market wage W^* . Expected earnings are F^*W^* . With public works, the individual earns the public works wage W . If the individual can continue to search for private or self-employment while participating in public works, with probability F of finding such employment, the expected wage with public works is $FW^*+(1-F)W$. The net wage benefit from the program for the worker is $NWB = (1-F)W - (F^* - F)W^*$. If the worker gets unemployment benefits or a subsistence allowance S , the wage benefit is reduced to $NWB = (1-F)W - (F^* - F)W^* - (1-F^*)S$. If the program costs G to the government per worker employed, a measure of cost-effectiveness is the share of public expenditures transferred to workers as wage gain NWB/G . This measure can be decomposed as follows:

$$\frac{NWB}{G} = \frac{C}{G} \frac{(W+L)}{C} \frac{W}{(W+L)} \frac{NWB}{W}$$

/ | \ \
budget wage targeting proportionate
leverage share performance wage gain

The determinants of cost-effectiveness are (a) the leverage ratio C/G , where C is the total cost per worker including community funding; (b) the wage share $(W+L)/C$, where W stands for wages paid to the poor and L stands for wages paid for the nonpoor resulting in leakage; (c) the targeting performance $W/(W+L)$, which is the percentage of wages reaching the poor; and (d) the proportionate wage gain NWB/W . This model can be extended to take into account the benefits of the infrastructure built by public works.

parameters: the proportionate wage gain, the targeting performance, the wage share, and the budget leverage.

- *Proportionate Wage Gain.* If having a PET job does not increase the probability of finding another job, which is realistic in poor rural areas, then the proportionate wage gain in the absence of unemployment benefits is one minus the probability of working outside of PET. According to Table 3, half the PET participants have occupations that enable them to work all year long. If they can indeed work on their own or find another job, the proportionate wage gain could be about 0.5, corresponding to those participants who cannot

work all year long (0.5 was also the proportionate wage gain observed for Argentina's public employment program *Trabajar* before changes were implemented in the program).

- *Targeting Performance.* In poor rural areas, PET households are poorer than nonparticipating households in terms of income, but they tend to have better human and physical capital. Overall, one could say that participants are similar to nonparticipants within marginalized areas. In this case, the poverty rate within marginalized rural areas, which may reach up to 80 percent, is an appropriate measure of targeting performance, given that the program is precisely targeted to these areas.
- *Wage Share.* Multiplying the number of workdays to be created in 1999 by PET by the wage rate (90 percent of the minimum wage of geographic zone C, which corresponds to MXP\$26.70 per day in January 1999), one gets a total wage bill of MXP\$2.5 billion. The total budget allocated to PET for 1999 was MXP3.6 billion, which results in a wage share of close to 70 percent.
- *Budget Leverage.* The program is almost entirely financed by the federal government (even though project selection is often at the state or local level). Hence the budget leverage is equal to 1.

COST-EFFECTIVENESS. Given the above (very rough) hypotheses, the overall cost-effectiveness of the program is 0.28. Thus, it would take slightly more than 3.5 pesos of federal funds to generate 1 peso in additional income for the poor through PET. This figure is higher than that of employment programs in India, but lower than what is observed in Argentina, at least before changes were made in *Trabajar*. Note, however, that in the above estimate, the benefits of the public works themselves have not been taken into account, and they can be big. If good survey data were collected on *Trabajar* participants, more precise estimates of the cost-effectiveness of the program could be obtained.

Mexico could learn from experiences abroad to increase community participation and funding. Several useful lessons for PET can be learned from the reform of *Trabajar*. In Argentina, the difficulties of 1996–97, during which unemployment reached 40 percent in the poorest population decile of Greater Buenos Aires, provided an impetus to improve *Trabajar* (adding 300,000 participants from May 1997 to October 1998). While keeping the self-targeting feature of the program (as in Mexico, minimum wages ensure participation by the poor), the focus of the reform was placed on increasing community participation and funding in the choice of the projects to be financed.

Trabajar now works in collaboration with local community groups, NGOs, and municipalities which present projects for selection (some community participation is also observed in Mexico). While *Trabajar* covers the cost of labor, local sponsoring groups cover nonwage costs. Projects must first be approved for technical feasibility. Next, they are selected on a points basis. More points are awarded to projects that are located in poorer areas, that yield larger public benefits, that benefit from well-regarded sponsoring community groups or NGOs, and that reduce labor costs

below the minimum wage. These new features have improved targeting both at the geographic and individual level. Apart from increasing cost-effectiveness at the federal level, the involvement of local groups has also improved the quality of monitoring and feedback. All problems have not been solved, however. There remains evidence of political influence in the choice of participants, and of gender discrimination (few women are selected in some areas). Local groups are not always well positioned to contribute to nonwage costs, and the provision of jobs takes precedence over the projects' quality in some areas.

Other Employment Programs for the Poor

Apart from PET, the government operates several smaller employment programs targeting poor areas. The other half of federal funds devoted to employment and income opportunities for the poor is allocated to smaller programs providing credit or infrastructure. Some of these programs are as follows:

- *Jornaleros Agrícolas*. This program's goal is to improve the living conditions of migrant farm workers. It promotes collaboration between public and private (producer) organizations to achieve these goals. In 1998 the program funded 13,650 projects in 14 states and 248 *municipios*, helping 682,000 workers. Of all projects, 23 percent were for housing improvements; 22 percent for culture, recreation, and education; 18 percent for help with legal problems; and the rest (27 percent) for nutrition, employment, training, and health. In 1999 the program expanded coverage into Jalisco.
- *Fondos Regionales Indígenas (Apoyos Productivas del INI)*. These regional indigenous funds encourage productive initiatives from local indigenous groups in their place of origin. It is hoped these initiatives will become self-financing in the long term. Earnings from the initiatives are reinvested in the regional fund. Seventy-two percent of beneficiaries have been in Chiapas, Guerrero, Oaxaca, San Luis Potosí, and Veracruz. In 1995, 146 regional funds were established. This increased slightly in 1997 to 151. During 1995–97, 8,701 projects received some support and benefited 865,000 indigenous people.
- *FONAES*. The *Fondo Nacional de Apoyo a Empresas Sociales* provides support to small firms and other organizations that help develop the local economy, and provide services in both rural and urbanizing areas (*barrios populares*). Funds are used as risk capital, to act as a credit guarantee, and to encourage productive investment and technological development, training is also provided. During 1995–97, 10,343 organizations received funding and 35,571 jobs were created. In 1998, 2,107 new groups received support. About 80 percent of the projects tend to survive.
- *Crédito a la Palabra*. This program was established in 1990 to supply credit for farmers excluded from commercial credit because of their perceived lack

of productive potential and collateral. Farmers are supplied with no-interest credit to finance the crop of their choice for up to 3 hectares. Credit is obtained through a local committee, which petitions for funds. Loans are repaid into a local social fund, which is administered by the municipal government. During 1990–94, loans were for MXP\$300 per hectare. In 1995 they were fixed at MXP\$400, and today they are worth MXP\$500 per hectare. The loans may be insufficient to fund technological development or innovation, and therefore they may simply support subsistence cultivation. The area financed has decreased from 2 million hectares in 1990 to 1.2 million hectares in 1998. A large part of the funds go to the southern states.

- *CONAZA*. The *Comisión Nacional de las Zonas Áridas* targets semi-arid and arid areas with projects for productive growth and investments in local infrastructure. Funds from *Ramo 26* are available through this program, which benefited 354 communities in 1998. Funding was allocated to 88 projects which covered 870 hectares. Projects covered a range of needs. For example, 38 projects have provided and maintained drinking water or sewerage systems.

The impact of these programs on the farm and nonfarm economy should be evaluated; however, due to lack of data it is not possible to do so. Such an evaluation should focus on impacts not only at the household level, but also at the local level within the context of the nonfarm economy becoming increasingly important for survival and social mobility. According to data from the SAR/World Bank 1997 survey of the *ejido* sector, the probability of being poor is reduced by access to employment in the nonfarm sector. Income mobility has increased for households with members who found employment in commerce and other nonagricultural sectors. This interacts with both individual variables such as education and gender, and local variables such as access to labor markets through better roads. Human capital is key for gaining earnings from the nonfarm sector. Yet it is not enough, especially for women. Higher employment rates for men cannot be explained by differences in human capital. Structural factors such as labor market demand, household demographics, and employment practices are at play. This suggests that policies focusing exclusively on human capital will have a limited impact on reducing gender inequity and poverty, which provides a role for employment programs to fill part of the gap.

Training Programs

The two largest training programs are CIMO for the employed, and PROBECAAT for the unemployed. While training programs are not officially part of the government's strategy for the reduction of poverty, they are worth discussing here because their goal is to increase human capital and facilitate the adaptation of the labor force to the ongoing restructuring of the economy. There are two main programs:

- *CIMO*. Since 1988, *CIMO (Programa Calidad Integral y Modernización)* has provided technical assistance and financial support to training and productivity programs that take place within small and medium-sized businesses. The program funds projects that increase the businesses' productivity and enable them to expand their workforce, develop their human capital, and improve their working conditions. In 1997 there were 550,000 beneficiaries. While the number of beneficiaries did not rise above the previous year's level, it was a significant increase over the 1995 level of 368,000.
- *PROBECAT*. The *Programa de Becas de Capacitación para Desempleados* was implemented in 1986 as a response to the growth in unemployment that followed the 1982 debt crisis and the subsequent structural adjustment policies. By 1986 almost 20 percent of the workforce (5 million people) were unemployed or seriously underemployed. *PROBECAT* was designed to combat this mismatch between worker skills and firm requirements while simultaneously helping workers weather economic shocks. Given that *PROBECAT* targets the unemployed, it is more likely than *CIMO* to benefit the poor.

There are three main training modalities in *PROBECAT*. School-based, in-service, and *PILEOT*. Table 4 provides an overview of the three main training modalities in *PROBECAT*. The program began by providing school-based training. Later, to better match workers' skills with local employer needs, an in-service modality was created whereby firms provide training to participants who receive their minimum-wage stipend through *PROBECAT*. On completion of the training, 70 percent of the trainees are guaranteed employment with the local trainer. Finally, in response to the economic crisis of 1994–95, *PILEOT (Programa de Iniciativas Locales de Empleo y Ocupación Temporal)* was initiated in 1995 to reach the economically disadvantaged in marginalized areas. Thirty percent of *PILEOT*'s beneficiaries are rural, compared to 9 percent for the school-based module and 4 percent for the in-service module. *PILEOT* targets individuals who are self-employed or occupied in community-based initiatives. Participants must have basic literacy and numeracy skills and be unemployed or underemployed. The number of program participants has increased from 100,000 per year in the first years to 581,000 in 2000. Today *PILEOT* is the largest module, covering more than half the participants; the school-based module is the next largest; and the in-service module is the smallest.

The training gains from participation in *PROBECAT* may have been overestimated in past evaluations. Two previous evaluations of *PROBECAT* have been performed using data from 1992 and 1994 participants cohorts. These evaluations, which were completed before the start of *PILEOT*, suggested that the program had a positive impact on wages and that it reduced the time needed to find employment. Thus, the benefits of the programs for participants surpassed its costs to the government. In both evaluations, the analysis relied on a quasi-experiment by comparing a treatment group (the *PROBECAT* trainees) with a control group (the urban unemployed). However, a reexamination of the more recent study using the same

Table 4. Modalities of PROBECAT's Main Training Modules

	<i>School-Based Training</i>	<i>In-Service Training</i>	<i>Pilot</i>
Eligibility Rules	Unemployed candidate registered with SES, aged 16 to 55, having completed primary school and having at least 3 months of experience	Unemployed, registered with SES, aged 18 to 55, having completed primary school (this can be waived by firm). No prior experience required.	Unemployed aiming at self-employment, aged 16 to 55, literate, no upper secondary schooling. Special module for community activities
Training Provider	Training schools/centers	Participating firms	Training centers/instructors
Training Duration	1 to 6 months	1 to 3 months	1 to 3 months
Benefits Received	Training, minimum wage, transportation costs, health insurance under IMSS	Training, minimum wage, transportation costs, health insurance under IMSS	Same, plus a set of tools for self-employment module
Training Costs	PROBECAT program	Firm (cost of instructors, equipment, and materials)	PROBECAT program
Training Content	Set by training provider with little customization	Set by firm. Mostly hands-on training	Set by the training provider with customization
Placement	Required to register with SES. No placement	Firms required to employ 70 percent of the trainees	No particular follow up

Source: STPS.

data but with alternative econometric methods suggests that the gains from PROBECAT may have been overestimated. In this reexamination, the program does not appear to have much impact on either employment or wages.

The weak impact of PROBECAT is not unlike that of other training programs in OECD countries. The disappointing results of PROBECAT in terms of raising wages and employment are not surprising. Most retraining programs in OECD countries have been found to be of limited impact. When programs were found to have an impact in the short term, this impact was also found to vanish after a few years. As for PROBECAT, the results observed with the in-service modality in terms of employment at the end of the program need not imply large net gains. It could well be that without the wage subsidy provided by the government, participating firms would have hired the same workers (this is referred to as a deadweight loss in the literature) or other workers (substitution effect). It may even be that the firms which benefited from the wage subsidies became more competitive, and thereby displaced workers in other firms not benefiting from the subsidies (displacement effect). In some OECD countries, the combined impact of deadweight losses, substitution, and displacement has been shown to wipe out up to 90 percent of the effects of training and subsidy programs for the unemployed. While this does not mean that PROBECAT should be terminated, it suggests that rigorous cost-benefit analysis be applied to the program.

There may be a tension between the safety net and training components of PROBECAT. One reason why PROBECAT has a limited impact on employment and wages may be that the duration of training provided is too short (typically two months) to provide skills valuable in the long term. PROBECAT may function rather as a (well-targeted) safety-net program providing temporary relief for the unemployed, with a self-targeting mechanism not unlike that of PET, since participants receive only the minimum wage. If this were the case, there would be a tension between the objectives of training and income supplementation, since the means to achieve both are not necessarily the same. It is probably better to choose one goal or the other, rather than trying to meet both goals with a single program. On the other hand, even if PROBECAT were to better serve as a training program during good times, it could still easily be transformed into a self-targeted and relatively cost-effective safety net during recessions.

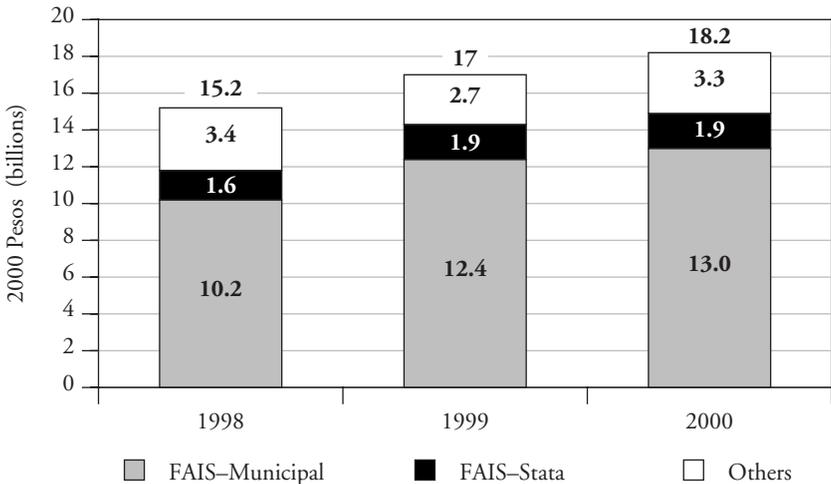
VI. Investments in the Physical Capital of Poor Areas

The government's third and last group of programs for the poor deals with the social infrastructure of poor areas. The government programs reviewed in the last two sections are implemented primarily at the household level (PET is an exception in that it affects both households and communities, the latter through public works). But the standard of living of households is not determined only by household characteristics; it also depends on the characteristics of the areas in which households live.

The last group of poverty programs aims at improving the social infrastructure of poor communities. The problems confronted in rural and urban areas are different. In rural areas, there is a lack of basic social infrastructure such as schools and health centers. In urban areas, basic social services are more accessible, but migration creates settlements in which housing conditions are deplorable. In addition, due to the decentralization process, the funds for investments in the physical capital of marginalized areas are now provided by the federal entity to states, and then from states to municipalities, which are ultimately accountable for their use. A new range of issues related to decentralization emerges in the management of these programs. Taking this into account, this section analyzes the infrastructure needs of the urban and rural poor areas, and considers the decentralization process and its allocation formulas for funds.

Most of the funding for investments in poor areas is disbursed through the decentralized FAIS. FAIS, the *Fondo de Aportaciones para la Infraestructura Social*, which provides federal funding to improve the basic social infrastructure of marginalized areas. The fund covers investments in both urban and rural areas for clean water, sewerage, drainage, urbanization, electricity, basic education infrastructure, basic health infrastructure, rural roads, and rural productive infrastructure. Of a total of MXP\$18.2 billion allocated to the physical capital of poor areas in 2000, MXP\$14.9 billion (82 percent) will be distributed through FAIS (Figure 12). Most other programs for infrastructure in poor areas deal with water and sanitation (through CNA), and rural ways and telephony (through SCT).

Figure 12. Expenditure in Physical Capital in Poor Areas, 1998 and 1999



Inadequate Access to Basic Social Infrastructure

The geographic effects on well-being provide a rationale for policies for poor areas. In Mexico, there are large differences in standards of living between states, and between municipalities within states. These differences could be due to differences in the characteristics of the households living in various areas, such as education and occupation. They could also be due, however, to the characteristics of the areas themselves, such as infrastructure. More precisely, the characteristics of an area can have both direct and indirect geographic effects on the well-being of its inhabitants.

- *Direct Effects.* By direct effects, it is meant that statistically significant geographic determinants of income or consumption are observed even after controlling for a wide range of household characteristics. Differences between areas in the returns to household characteristics can also be observed. These direct geographic effects may be due to many causes, including climate, access to markets, demand for labor, and industry concentration. Neoclassical theory predicts that migration should reduce the size of these effects, but the effects can persist for a long time.
- *Indirect Effects.* Apart from direct effects, there may also be indirect geographic effects in that location may affect household endowments (such as education) and opportunities (such as occupational choice), which themselves affect standards of living. For example, the availability of schools may affect education levels, which are themselves a key household determinant of income.

According to estimates based on the INEGI surveys, there are indeed both direct and indirect geographic effects at the state level on standards of living in Mexico. For example, one can provide measures of mean per capita income by state without and with controls for a wide range of household characteristics. This yields geographic effects which are relatively stable over time and coherent with observed migration. This provides some rationale for investing in the physical capital and social infrastructure of poor areas, since area characteristics do matter for poverty reduction. This is true in both urban and rural areas.

Part of the strong geographic effects on standards of living may be due to the fact that small rural and marginalized communities lack access to a wide range of public services. Table 5 provides statistics on the lack of access to public services in a sample of marginalized rural areas from the 1997 ENCASEH. In the group made up of the smallest communities with less than 20 households, only 40 percent of the villages have electricity. Forty percent of the smallest villages still do not have a primary school. Sewerage, public phones, and post offices are virtually nonexistent. A majority of the smallest villages are served by mobile health units, but 30 percent are not. Access to services improves with the size of the community, especially for schooling, but even in the larger communities there are gaps, for example, in healthcare. All this does not mean that a post office or a clinic should be placed in villages with less

Table 5. Lack of Access to Public Services (Percent)

	<i>Community Size (Number of Households)</i>		
	<i>Up to 20</i>	<i>21 to 60</i>	<i>61/more</i>
Electricity	59	40	20
Sewerage	90	87	84
Public phone	97	90	52
Post office	98	98	95
Preschool	68	28	6
Primary school	40	13	2
Telesecondary school	99	95	69
Secondary school	100	100	95
SSA clinic	98	93	76
IMSS–Solidaridad	100	98	90
Local health auxiliaries	72	47	41
Health mobile unit	30	25	25

Source: World Bank staff estimates.

than 20 households, but it points to the lack of access to basic services on the part of the rural population.

Small communities also suffer from a lack of access to government programs. The smaller the community, the smaller the likelihood of benefiting from government programs as well (Table 6). DICONSA stores, which provide basic products at low prices, are not located in the smallest villages because they are not a sufficient market. The differences in access to DIF programs are smaller than those observed for DICONSA but nevertheless there are differences. Grants from various ministries

Table 6. Lack of Access to Programs (Percent)

	<i>Community Size (Number of Households)</i>		
	<i>Up to 20</i>	<i>21 to 60</i>	<i>61/more</i>
Diconsa store	97	86	52
DIF school breakfasts	46	42	38
DIF community kitchen	96	93	89
Liconsa distribution	95	92	84
Subsidized tortilla	99	99	98
Grants (depensas)	70	59	53
Niños de Solidaridad	63	50	41
PROBECAT and Cimo	99	99	98
Empleo temporal	94	90	84

Source: World Bank staff estimates.

and *Niños de Solidaridad* also have a hard time making it to the smallest communities, as is the case of PET. Thus, those communities which are likely to be the poorest remain excluded from the programs implemented by the government for the reduction of extreme poverty. It should also be noted that PROGRESA is not reaching the smallest communities because the existence of a health center and a school are requirements for program participation at the community level. This is due to the fact that the program is based on co-responsibility for the parents to send their children to school and to visit the health center regularly. It would be worth investigating how to reach these communities (Ramo 33 gives the opportunity to states and localities to build schools and health centers, and this could provide an opportunity for the extension of PROGRESA).

Access to services and programs in poor rural areas helps build human capital. The impact of government services and programs on schooling and child labor in marginalized areas has been measured using the 1997 ENCASEH. Preliminary findings indicate that DIF's school breakfasts have some impact on child labor (reduced for boys) and schooling (increased for girls) in marginalized areas, while *Niños de Solidaridad* apparently does not have as much impact. Moreover, access to telesecondary school was found to increase the probability of going to school for both boys and girls between ages 8 and 14. Many children aged 12 to 14 who have completed primary school attend telesecondary school when it is available. It may also reflect a pulling effect from telesecondary to primary as the perspective of being able to attend telesecondary makes the expected benefits of completing the primary level more attractive.

Poor living conditions in rural areas have led to migration to urban areas and to the U.S. Today, 7 million Mexicans live in the U.S. The total value of remittances from international migration was estimated by the Central Bank at US\$4.2 billion in 1997. Remittances are equivalent to the total agricultural output of Mexico, 57 percent of its available foreign exchange, and 5 percent of the income from total exports. Migration, both internal and international, can be seen as part of a portfolio of activities that households engage in not only to combat poverty, but also to alleviate risk. Migrant remittances protect rural households when they are confronted with declining economic conditions and inflation. Remittances also counteract seasonal cash-flow problems for farm households. Households with good incomes may also migrate when access to credit is limited in their place of origin. In some cases, remittances are used to invest in new business ventures or farming techniques. Yet while migration may lead to an influx of funds, in the long term the question arises as to whether it increases the options of migrant families or encourages a dependent relationship with little prospect for change.

Migration is not without social costs, and it poses a difficult infrastructure challenge in cities. While migration may appear to result in the reduction of poverty when measured through a standard index, it also generates high social costs. When a father migrates, the mother and the children often stay in their village of origin. Emphasis on the potential benefits from migration in economic terms may lead to the exclusion of migration issues at the policy level. Rural-urban migration within

Mexico is large, and during 1970–90 it contributed to an increase from 10 to 55 in the number of medium-sized cities of 100,000 to 1 million inhabitants. Many of these cities have problems providing sufficient employment and infrastructure for their population. The living conditions of some urban migrants are deplorable, and the cost of providing them with access to water, sewerage, and electricity is high. These issues are worth thoroughly examining in the context of the links between rural and urban poverty.

Good Institutions and Management are Needed for Decentralization to Be Pro-poor

Traditionally, in Mexico, budgets and allocation decisions were centralized at the federal level. Until recently, decisionmaking and social spending were centralized at the federal level. Apart from local needs, it has been argued that political negotiations and client-based relationships possibly played a role in budget allocations. For example, in President Salinas' (1988–94) PRONASOL, a large government program which provided money for local infrastructure, funds were delivered directly from the central government to local Solidarity committees, bypassing state and municipal governments. The allocation of PRONASOL funds was probably not as responsive to local needs as it could have been. The program favored urban areas over rural areas despite the fact that rural areas were poorer. Even if the allocation decisions were appropriate, however, a lack of transparency cast doubt on the program's management.

Recently, large funds including FAIS have been decentralized under *Ramo 33*. Things changed in 1995 when the government announced institutional reforms aimed at decentralizing public spending (*Nuevo Federalismo*). The aims of these reforms are threefold: (a) to improve both financial and political accountability at the local, regional, and national level; (b) to encourage the participation of local actors and strengthen state–civil society interactions; and (c) to ensure that service provision improves in poor and marginal areas. In 1996, as part of this plan, 60 percent of the funds available through *Ramo 26* were distributed to states through a public formula and went into a municipal development fund (*Fondo Del Desarrollo Social Municipal*, FDSM). These funds were available for work in several areas: water and drainage, urbanization, electrification, basic health infrastructure, basic education infrastructure, housing improvement, rural roadways, and productive rural infrastructure. In 1998, decentralization went further with *Ramo 33*, through which 82 percent of all decentralized funds are now transferred. *Ramo 33* incorporates funds previously available from FDSM into FAIS, but its scope has been widened to also incorporate funds previously allocated through the Ministries of Health and Education. Apart from FAIS, *Ramo 33* consists of nine other funds: *Fondo de Aportaciones para la Educación Básica y Normal* (FAEB), *Fondo de Aportaciones para los Servicios de Salud* (FASSA), *Fondo de Aportaciones para la Infraestructura Social* (FAIS), *Fondo para la Infraestructura Social Estatal* (FISE), *Fondo para la Infraestructura Social Municipal* (FISM),

Fondo de Aportaciones para el Fortalecimiento Municipal (FAFM), Fondo de Aportaciones Múltiples (FAM), Fondo de Aportaciones para la Educación Tecnológica y de Adultos (FAETA), and Fondo de Aportaciones para la Seguridad Pública (FASP).

Because of the speed with which decentralization took place, some management issues remain. Mexico's decentralization took place in part to ensure a more equitable and transparent distribution of federal resources. It was also motivated, however, by negotiations between political parties. Because of deadlines for adopting the federal budget, decentralization was accelerated without giving much time to states and municipalities to get ready for the exercise of their new responsibilities. Other issues have not been resolved due to the speed with which decentralization took place. While decentralization has virtues, it is not a panacea, and in particular it need not be pro-poor, nor does it necessarily improve governance.

Allocations for existing social infrastructure continue to be based on past history rather than need. The allocations for basic education (FAEB) and 80 percent of health spending (FASSA), both of which account for three fourths of *Ramo 33's* budget, are based not on need, but on past expenditures and existing costs. The rest of FASSA (20 percent) is allocated through a formula that takes into account state deficits or surpluses in healthcare, but this still does not compensate fully for the unequal distribution of services. There is thus inequity because states that are well endowed continue to receive large portions of FAEB and FASSA funds. By contrast, the six states that account for 46 percent of the illiterate receive only 33 percent of FAEB (excluding the state of Mexico and the D.F.). Alternative formulas could provide more equity in the distribution of funds. In the case of education, this could include (a) a uniform per-student formula, (b) a per-student formula adjusted to the elasticity of enrollment by state (so that more money is given to lagging states whose elasticity of enrollment to public spending is higher); or (c) a formula that would include the above plus a provision to allocate supplementary funds to target children with special needs such as rural, indigenous, or poor children. It should be mentioned, though, that apart from FAEB and FASSA, there are other programs (such as CONAFE, INI, PROGRESA, INEA, and PAC) that directly aim at improving services to the poor.

Allocations for new infrastructure (FAIS) are based on need and rely on a publicly known formula. FAIS funds new social infrastructure projects mainly at the municipal level. The allocation of FAIS funds from the federal entity to the states is based on a weighted index of well-being called the *Masa Carential Municipal* (MCM). MCM takes into account five indicators of well-being: the household per capita income (with a weight equal to 0.462), the average level of education per household (0.125 weight), a measure of the living space (0.239 weight), a measure of the availability of drainage (0.061 weight), and a measure of access to electricity–fuel combustion (0.114 weight). MCM is calculated first at the household level, then at the municipality level, and finally at the state level. The federal entity makes the transfers to the states on the basis of the state-level aggregate MCM, then the allocation is made from the state to the municipalities along similar lines. States

which do not have the necessary information to apply the FAIS formula for their allocations to municipalities may use a simpler rule based on the arithmetic mean of the shares of the economically active population earning less than two minimum wages, the adult illiterate population, the population living in houses without drainage, and the population in houses without electricity. All but six states used this simpler formula in 1998. To cushion smaller and richer states from their reduction in infrastructure funding, 1 percent of FAIS was allocated to each state equally in 1998 (for a total of 31 percent of the budget). In 1999, each state received 0.5 percent of the FAIS budget. Thereafter, only the formula will rule (Table 7).

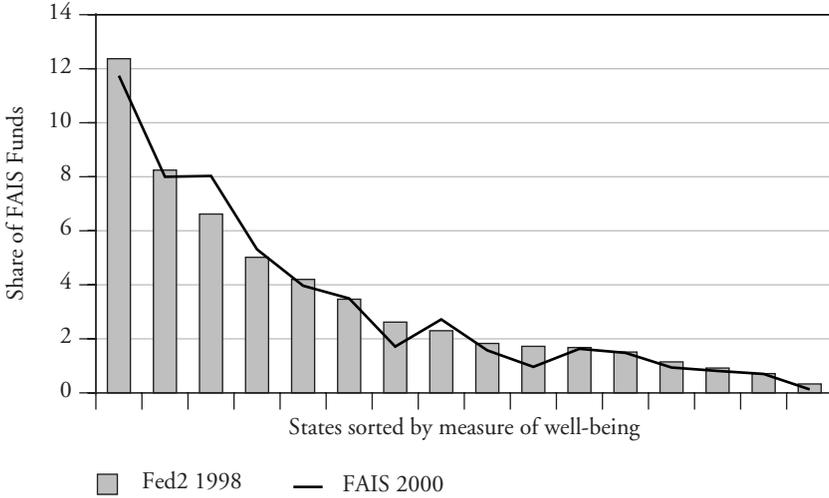
The FAIS formula has increased infrastructure funding for the poorest states. Figure 13 give the expected allocation of FAIS funding in 2000 as a function of a simplified measure of well-being at the state level. The use of need-based formulas to distribute the funds is clearly redistributive. The six poorest states have increased their share of these transfers from 29 percent in 1988 to 49 percent in 1999. In

Table 7. Allocation Rules for the Main Social Spending Funds in Ramo 33

<i>Fund</i>	<i>Objective of the Fund</i>	<i>Allocation Criteria</i>
FAEB	Covers the cost of basic education in states, including personnel salaries (88 percent of total costs), running costs, and general investments (except infrastructure).	The budget is allocated by the Ministry of Education (SEP) on the basis of past investments and costs, thereby showing inertia from year to year and little adaptation to local needs.
FASSA	Covers the cost of existing infrastructure for basic healthcare in states.	80 percent of the budget is allocated by the Ministry of Health to cover the costs of the existing infrastructure. The rest (20 percent) is allocated through a formula taking into account a minimal level of health expenditures per capita, and indicators such as the mortality rate, the uninsured population, and the state's marginalization index.
FAIS	Covers basic infrastructure, including clean water, sewerage, drainage, urbanization, electricity, basic education infrastructure, basic health infrastructure, rural roads, and rural productive infrastructure.	Funds are allocated according to needs as measured by a weighted index of five indicators of standards of living (illiteracy, drainage, electricity, water, and income). For the first two years, part of the funds are split equally between states to provide a cushion for richer states.

Source: Government of Mexico.

Figure 13. FAIS Allocations in 2000



2000, with the elimination of the fixed 0.5 percent share provision, this share will further increase to 54 percent. While the FAIS formula could perhaps be improved by finding a better way to define the weights of the five indicators on the basis of their elasticities of substitution, the current formulas are probably good enough. Additional relevant household-level information (such as direct measures of access to education and health facilities) could be incorporated into the formula, but for policy purposes, the allocation between states would not be affected much because the various indicators are highly correlated with each other. What is more important is to find mechanisms to monitor the allocation of funds within municipalities.

The decision to apply similar formulas for the allocation within states is sound. The majority (90 percent) of FAIS funds are transferred to a municipal fund (FISM). The rest (10 percent of the FAIS budget) goes into a state municipal fund. This 90/10 repartition is intended to promote responsiveness to local needs and priorities. Moreover, as of 1998, the FAIS formula (or its simpler equivalent) must be used for the allocation of funds between municipalities to ensure redistribution within states and between states. The experience of 1997, during which states could allocate their funds to municipalities as they wished, shows that the imposition of federal rules for within-state allocations may be needed. In the states of Guerrero and Tlaxcala the allocations between municipalities in 1997 were almost uniform, without regard for the relative state of deprivation of the municipalities. The changes made to the law for fiscal coordination in 1999 should help ensure that FAIS resources go to poor communities.

VIII. Conclusion

The challenge ahead is to design appropriate institutional management and control mechanisms. Confusion between state and federal responsibilities for the control of the use of FAIS funds has led to problems of accountability. There have also been a number of other administrative issues that will need to be resolved. For example, originally, the calendar of distribution for the funds had been so uncertain that municipal governments had not been able to take full advantage of their new resources to start projects. Moreover, while the allocation rules for the funds are clear, in principle, some municipalities still remain uninformed as to their new budget. Many of these problems have been solved, and the calendar for the distribution of funds is now officially published.

While some of these problems may be temporary, they are a warning to advocates of devolution who automatically cite its benefits. At the micro level, devolution may guarantee neither efficiency nor equity without appropriate institutions and control mechanisms. The problem is that many local governments lack the expertise and personnel to manage the FAIS funds, and resources have not yet been made available to help them increase their operating budgets, hire new staff or train existing staff, and modernize their administration. Another potential danger lies in the short-term assignments in the local political system. Municipal elections are held every three years and municipality presidents can serve for only one term, which may imperil the continuity of the municipal policy. On the other hand, while longer terms or reelection may improve stability, they can also create fiefdoms (*caciquismo*) when there is no voice from civil society. Civil society has a role to play here in ensuring that decentralization be pro-poor.